


STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL				1. WELL NAME and NUMBER Bonanza 9-23-43-11		
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				3. FIELD OR WILDCAT NATURAL BUTTES		
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				5. UNIT or COMMUNITIZATION AGREEMENT NAME		
6. NAME OF OPERATOR Enduring Resources, LLC				7. OPERATOR PHONE 303 350-5114		
8. ADDRESS OF OPERATOR 475 17th Street, Suite 1500, Denver, CO, 80202				9. OPERATOR E-MAIL aarlian@enduringresources.com		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU-074426		11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		12. SURFACE OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
13. NAME OF SURFACE OWNER (if box 12 = 'fee')				14. SURFACE OWNER PHONE (if box 12 = 'fee')		
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')				16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	2008 FSL 553 FEL	NESE	11	9.0 S	23.0 E	S
Top of Uppermost Producing Zone	2008 FSL 553 FEL	NESE	11	9.0 S	23.0 E	S
At Total Depth	2008 FSL 553 FEL	NESE	11	9.0 S	23.0 E	S
21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 553		23. NUMBER OF ACRES IN DRILLING UNIT 40		
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 1400		26. PROPOSED DEPTH MD: 8240 TVD: 8240		
27. ELEVATION - GROUND LEVEL 5007		28. BOND NUMBER UTB000173		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 49-2310		
ATTACHMENTS						
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES						
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER			<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN			
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)			<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER			
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)			<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
NAME Alvin Arlian		TITLE Landman-Regulatory		PHONE 303 350-5114		
SIGNATURE		DATE 05/28/2010		EMAIL aarlian@enduringresources.com		
API NUMBER ASSIGNED 43047510980000		APPROVAL <div style="text-align: center;">  Permit Manager </div>				

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	11	8.625	0	2000		
Pipe	Grade	Length	Weight			
	Grade J-55 ST&C	2000	36.0			

CONFIDENTIAL

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	8240		
Pipe	Grade	Length	Weight			
	Grade N-80 LT&C	8240	11.6			

CONFIDENTIAL

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Cond	20	14	0	40		
Pipe	Grade	Length	Weight			
	Grade J-55 ST&C	40	36.0			

CONFIDENTIAL

Enduring Resources, LLC
Bonanza 9-23-43-11
NESE 11-T9S-R23E
Uintah County, Utah
Federal Lease: UTU-74426

ONSHORE ORDER 1 - DRILLING PLAN

1. Estimated Tops of Geological Markers:

Formation	Depth (K.B.)
Green River	Surface
Wasatch	4550
Mesaverde	6390

2. Estimated Depths of Anticipated Water, Oil, Gas or Other Minerals:

Substance	Formation	Depth (K.B.)
	GR-Green River Elevation: 5007'	
Oil / Gas	Green River	5007
Oil /Gas	Wasatch	4550
Oil /Gas	Mesaverde	6390
Oil/Gas	Buck Tounge	8185
	Estimated TD	8240

An 11" hole will be drilled to approximately 2016 feet (KB). The depth will be determined by the depth that the Birds Nest zone is encountered. The hole will be drilled 400 feet beyond the top of the Birds Nest zone and surface casing will be set.

3. Pressure Control Equipment: (3000 psi schematic attached)

- A. Type: Eleven (11) inch double gate hydraulic BOP with eleven (11) inch annular preventer on 3,000 psi casinghead, with 3,000 psi choke manifold equipped per the attached diagram. BOPE as specified in *Onshore Oil & Gas Order Number 2*. A PVT, stroke counter and flow sensor will be installed to check for flow and monitor pit volume.
- B. Pressure Rating: 3,000 psi BOPE
- C. Kelly will be equipped with upper and lower Kelly valves.
- D. Testing Procedure: Annular Preventer

At a minimum, the annular preventer will be pressure tested to 50% of the stack rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. When the annular preventer is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the annular preventer will be functionally operated at least weekly.

Blow-Out Preventer

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. When the BOP is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills and tests will be recorded in the IADC driller's log.

E. Miscellaneous Information:

The blowout preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of *Onshore Oil & Gas Order Number 2*.

4. Proposed Casing & Cementing Program:

A. Casing Program: All New

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Depth Set (MD)
20"	14" O.D.				40' (GL)
11"	8-5/8"	36#	J-55	ST&C	0 – 2,016' (KB) est.
7-7/8"	4-1/2"	11.6#	N-80	LT&C	0 – 8,240' (KB)

The surface casing will have guide shoe. Centralize the shoe joint with bowspring centralizers in the middle and top of the joint and the next 16 joints with bowspring

centralizers on every other collar (8 centralizers total). Thread lock guide shoe.

Casing string(s) will be pressure tested to 0.22 psi/foot of casing string length or 1500 psi, whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe.

B. Casing Design Parameters:

Depth (MD)	Casing	Collapse(psi)/SF	Burst (psi)/SF	Tension(mlbs)/SF
40' (GL)	14" OD			
2016' (KB)	8-5/8", 24#/ft, J55, STC	1370/1.52(a)	2950/3.28(b)	244/5.81(c)
8240' (KB)	4-1/2", 11.6#/ft, N-80, LTC	6350/1.35 (d)	7780/1.80 (e)	223/2.47(f)

- (a.) based on full evacuation of pipe with 8.6 ppg fluid on annulus
 (b.) based on 8.6 ppg gradient with no fluid on annulus
 (c.) based on casing string weight in 8.6 ppg mud
 (d.) based on full evacuation of pipe with 10.0 ppg fluid on annulus
 (e.) based on 9.2 ppg gradient, gas to surface, with no fluid on annulus, no gas gradient
 (f.) based on casing string weight in 9.2 ppg mud

PROPOSED CEMENTING PROGRAM

Surface Casing (if well will circulate)-Cemented to surface

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
8-5/8"	Lead	1516	Premium cement + 16% gel + 0.25 pps celloflake	138	25%	11.1	3.50
8-5/8"	Tail	500	Premium cement + 2% CaCl ₂ + 0.25 pps celloflake	138	25%	15.8	1.15

A cement top job is required if cement fallback is greater than 10' below ground level. Top job (weight 15.8 ppg, yield 1.15 ft³/sx) cement will be premium cement w/ 3% CaCl₂+0.25 pps celloflake. Volume as required

Surface Casing (if well will not circulate) - Cemented to surface

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
8-5/8"	Lead	500	Premium cement + 2% CaCl ₂ + 0.25 pps celloflake	138	25	15.8	1.15
8-5/8"	Top job	As req.	Premium cement + 3% CaCl ₂ + 0.25 pps celloflake	As Req.		15.8	1.15

Production Casing and Liner - Cemented TD to 300' above base of surface casing

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft ³ /sx)
4-1/2"	Lead	2434	Class "G" + 5% NaCl + 12% Gel + 0.25 pps celloflake + 0.2% antifoam + 0.25% fluid loss + 1% extender	212	25	11.0	3.3
4-1/2"	Tail	4090	50/50 POZ Class G + 2% gel +1% CaCl ₂ + 0.2% dispersant + 0.2% fluid loss + 0.1% antifoam	747	25	14.3	1.56

Cement volumes for the 4-1/2" Production Casing will be calculated to provide a top of cement to 300' above base of surface casing. Cement volumes are approximate and were calculated under the assumption that a gauge hole will be achieved. Actual cement volumes may vary due to variations in the actual hole size and will be determined by running a caliper log on the drilled hole. Actual cement types may vary due to hole conditions and cement contractor used.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. **Drilling Fluids (mud) Program:**

Interval (MD)	Mud Weight	Fluid Loss	Viscosity	Mud Type
0' – 2016' (KB)		No cntrl		Air/mist
2000'-3000' (KB)	8.4-8.6	No cntrl	28-36	Water
3000'-8240' (KB)	8.8-9.8	8 - 10 ml	32-42	Water/Gel

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations.

6. **Evaluation Program:**

Tests: No tests are currently planned.

Coring: No cores are currently planned.

Samples: No sampling is currently planned.

Logging

- Dual Induction – SFL /Gamma Ray/Caliper/SP/TDLT/CNL/ML
TD to Base Surface Casing
- Cement Bond Log / Gamma Ray:
TD to Base of Surface Casing or Top of Cement if below Base of Surface Casing

Stimulation: A stimulation or frac treatment will be designed for completion of this well based on openhole log analysis. The drill site, as approved, will be sufficient size to accommodate all completion activities.

7. **Abnormal Conditions:**

No abnormal temperatures or pressures are anticipated. No H₂S has been encountered or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals approximately 4285 psi (calculated at 0.52psi/foot of hole) and maximum anticipated surface pressure equals approximately 2472 psi (anticipated bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot of hole).

8. **Anticipated Starting Dates:**

- Anticipated Commencement Date- Within one year of APD issue.
- Drilling Days- Approximately 10 days
- Completion Days - Approximately 10 days
- Anticipate location construction within 30 days of permit issue.

9. **Variances:**

None anticipated

10. **Other:**

A Cultural Resource Inventory and Paleontology reconnaissance shall be conducted for the well location, access route and pipeline. The reports shall be submitted to the Division of Oil, Gas and Mining and the School and Institutional Trust lands Administration upon their receipt.

Single Shot directional surveys will be dropped every 2000 feet to monitor hole angle.

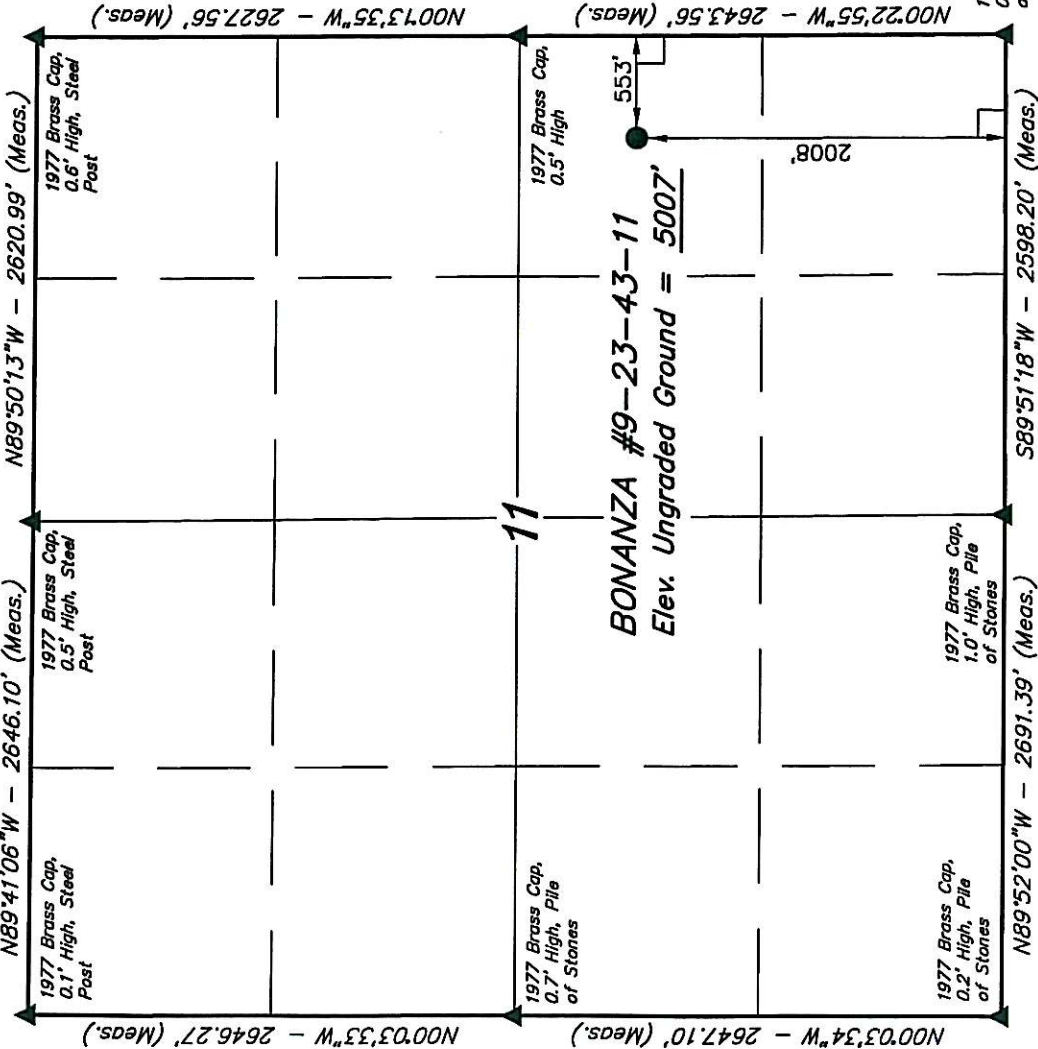
T9S, R23E, S.L.B.&M.

ENDURING RESOURCES, LLC

Well location, BONANZA #9-23-43-11, located as shown in the NE 1/4 SE 1/4 of Section 11, T9S, R23E, S.L.B.&M. Uintah County, Utah.

BASIS OF ELEVATION

BENCH MARK (54EAM) LOCATED IN THE NW 1/4 OF SECTION 14, T9S, R23E, S.L.B.&M. TAKEN FROM THE RED WASH SE QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5031 FEET.



BONANZA #9-23-43-11
Elev. Ungraded Ground = 5007'



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF UTAH
REGISTERED LAND SURVEYOR
KAY
No. 161319

Revised: 05-26-10 Z.L.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)
LATITUDE = 40°02'55.56" (40.048767)
LONGITUDE = 109°17'12.46" (109.286794)
(AUTONOMOUS NAD 27)
LATITUDE = 40°02'55.68" (40.048800)
LONGITUDE = 109°17'10.02" (109.286117)

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

UNTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 02-03-05	DATE DRAWN: 02-14-05
PARTY G.O. B.C. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COLD	FILE	ENDURING RESOURCES, LLC

ENDURING RESOURCES, LLC

BONANZA #9-23-43-11

LOCATED IN UINTAH COUNTY, UTAH

SECTION 11, T9S, R23E, S.L.B.&M.

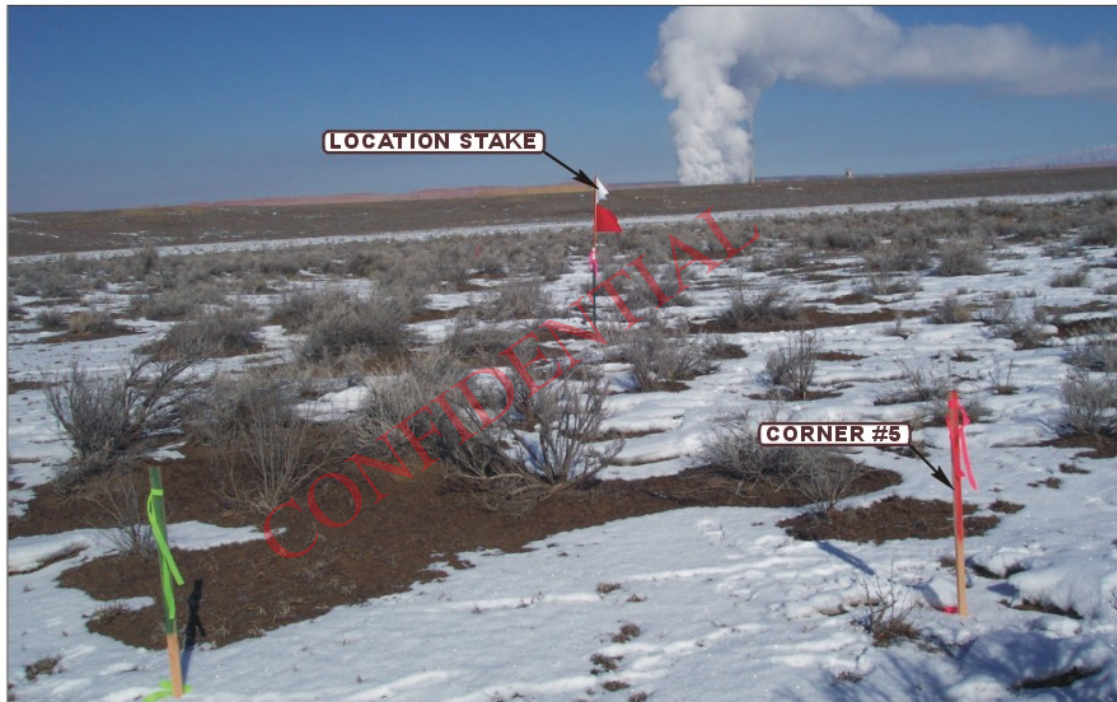


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: EASTERLY



- Since 1964 -

UELS

Uintah Engineering & Land Surveying

85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

02 16 05
MONTH DAY YEAR

PHOTO

TAKEN BY: G.O.

DRAWN BY: C.P.

REV: 05-26-10 Z.L.

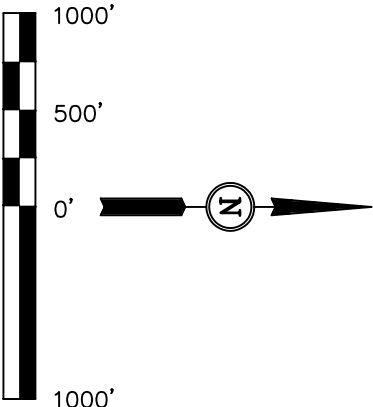
T9S, R23E, S.L.B.&M.

ENDURING RESOURCES, LLC

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CERTIFICATE

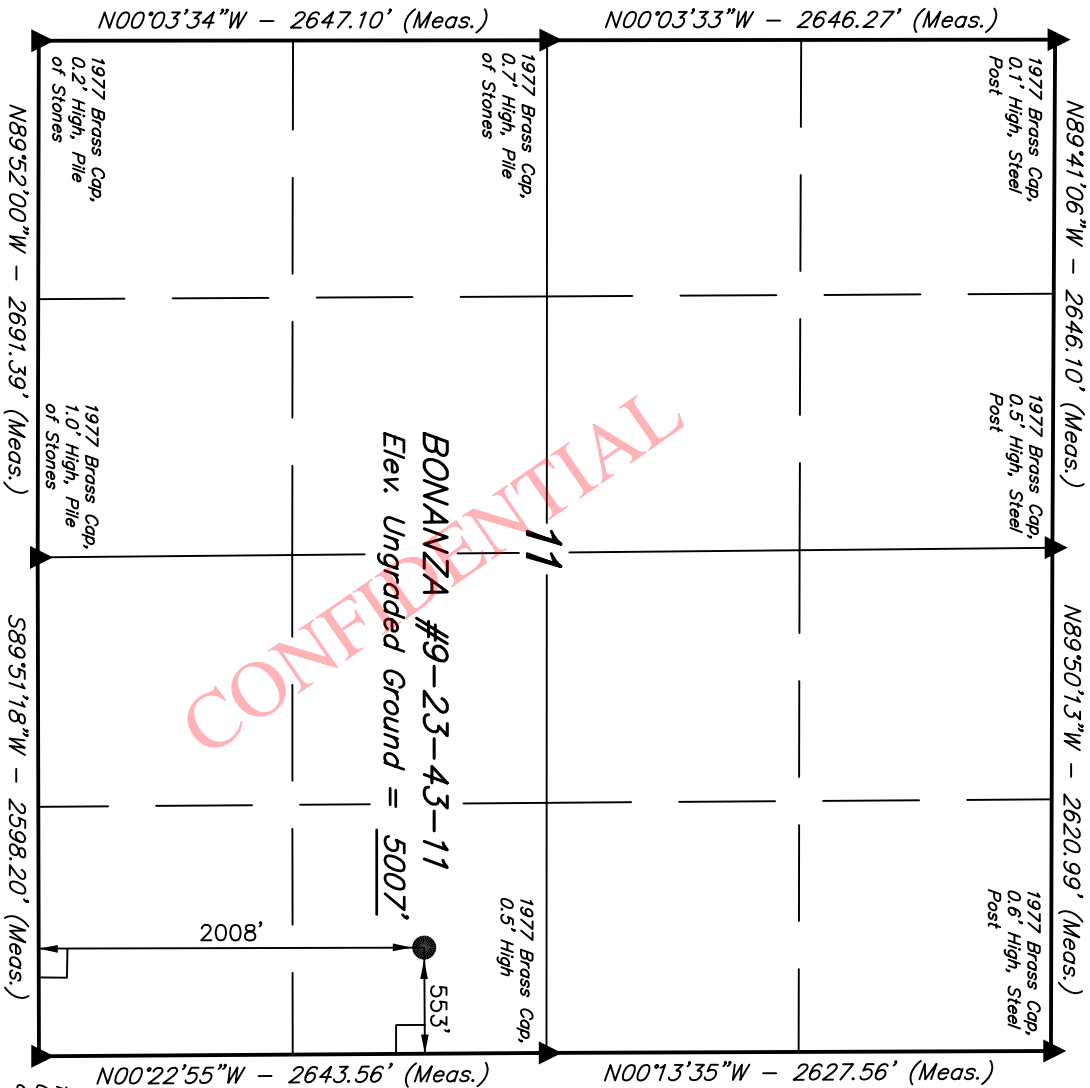
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Revised: 05-26-10 Z.L.

UINTAH ENGINEERING & LAND SURVEYING
865 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE	1" = 1000'	DATE SURVEYED:	02-03-05	DATE DRAWN:	02-14-05
PARTY	G.O. B.C. P.M.	REFERENCES	G.L.O. PLAT		
WEATHER	COLD	FILE	ENDURING RESOURCES, LLC		



BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)

LATITUDE = 40°02'55.56" (40.048767)

LONGITUDE = 109°17'12.46" (109.286794)

(AUTONOMOUS NAD 27)

LATITUDE = 40°02'55.68" (40.048800)

LONGITUDE = 109°17'10.02" (109.286117)

LEGEND:

— = 90° SYMBOL

● = PROPOSED WELL HEAD.

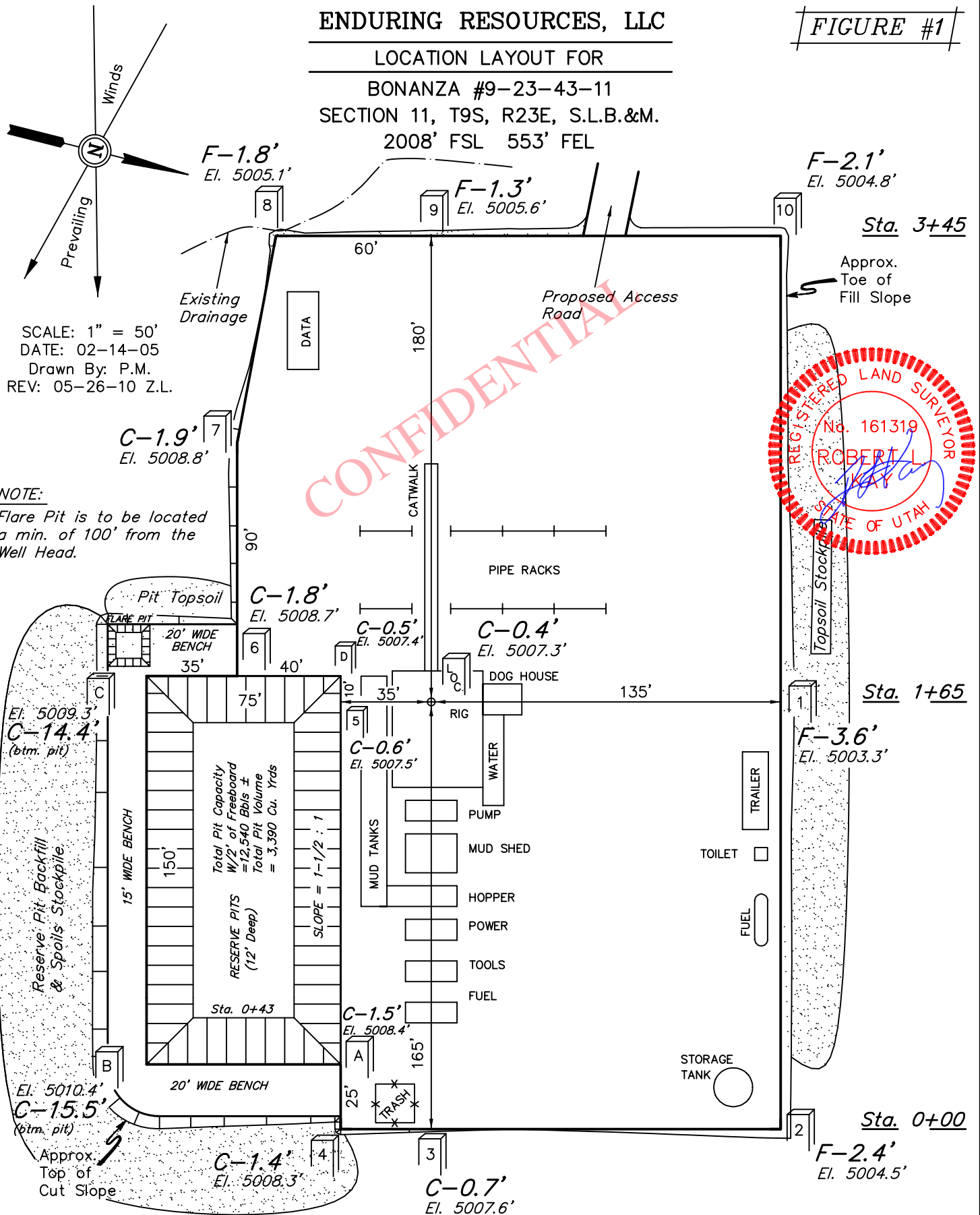
▲ = SECTION CORNERS LOCATED.

ENDURING RESOURCES, LLC

FIGURE #1

LOCATION LAYOUT FOR

BONANZA #9-23-43-11
SECTION 11, T9S, R23E, S.L.B.&M.
2008' FSL 553' FEL



NOTE:
Flare Pit is to be located
a min. of 100' from the
Well Head.

NOTES:

Elev. Ungraded Ground At Loc. Stake = 5007.3'

FINISHED GRADE ELEV. AT LOC. STAKE = 5006.9'

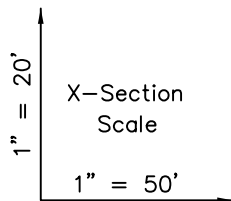
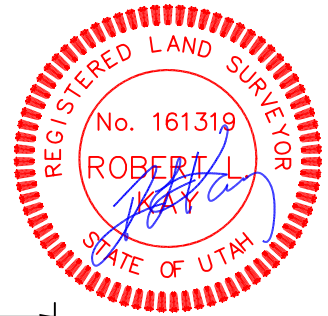
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ENDURING RESOURCES, LLC

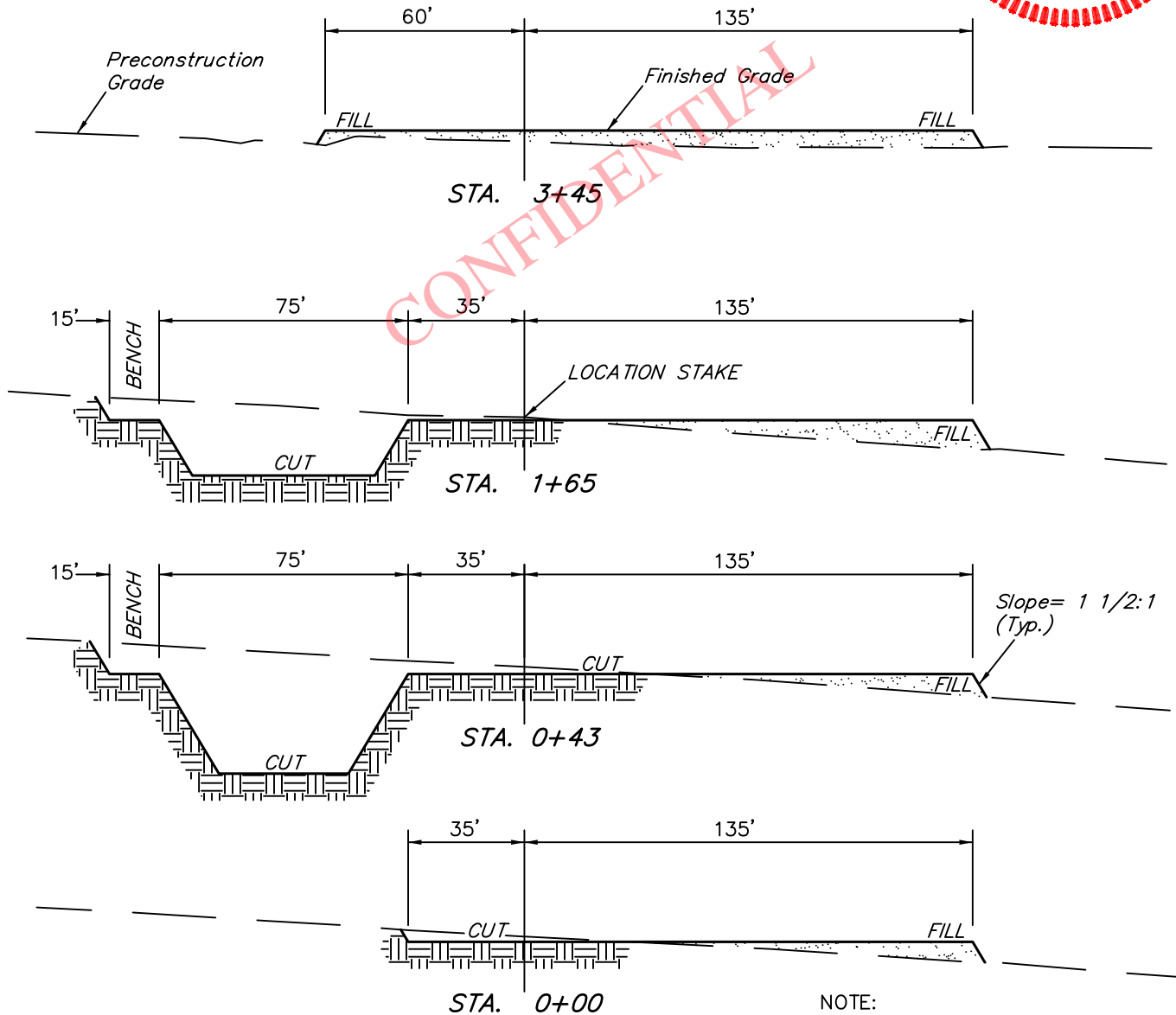
FIGURE #2

TYPICAL CROSS SECTIONS FOR

BONANZA #9-23-43-11
SECTION 11, T9S, R23E, S.L.B.&M.
2008' FSL 553' FEL



DATE: 02-14-05
Drawn By: P.M.
REV: 05-26-10 Z.L.



* NOTE:
FILL QUANTITY INCLUDES
5% FOR COMPACTION

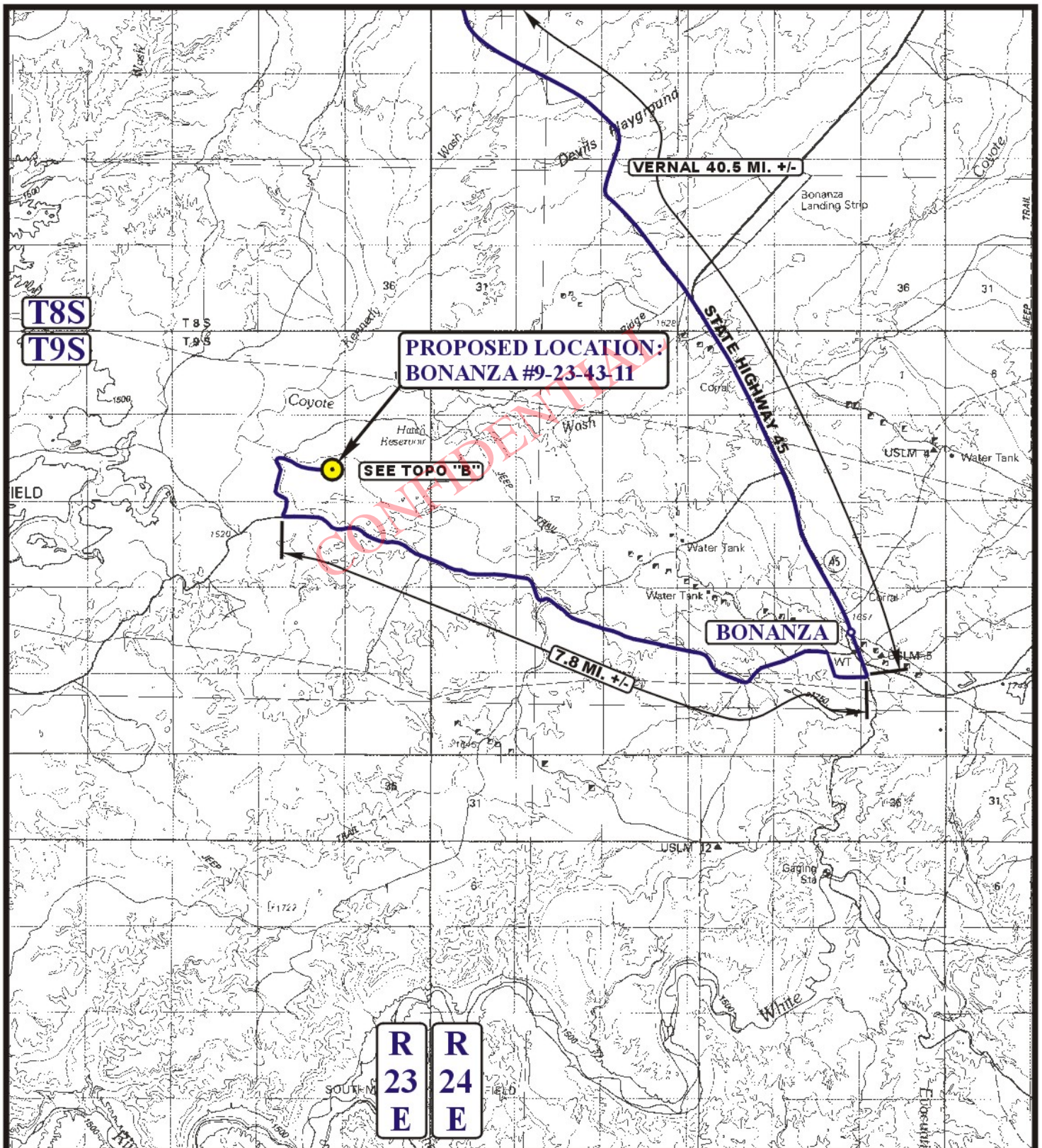
NOTE:

Topsoil should not be
Stripped Below Finished
Grade on Substructure Area.

APPROXIMATE YARDAGES

CUT	
(6") Topsoil Stripping	= 1,620 Cu. Yds.
Remaining Location	= 4,830 Cu. Yds.
TOTAL CUT	= 6,450 CU.YDS.
FILL	= 3,130 CU.YDS.

EXCESS MATERIAL	= 3,320 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 3,320 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0 Cu. Yds.



LEGEND:

PROPOSED LOCATION

ENDURING RESOURCES, LLC

BONANZA #9-23-43-11
SECTION 11, T9S, R23E, S.L.B.&M.
2008' FSL 553' FEL



Utah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

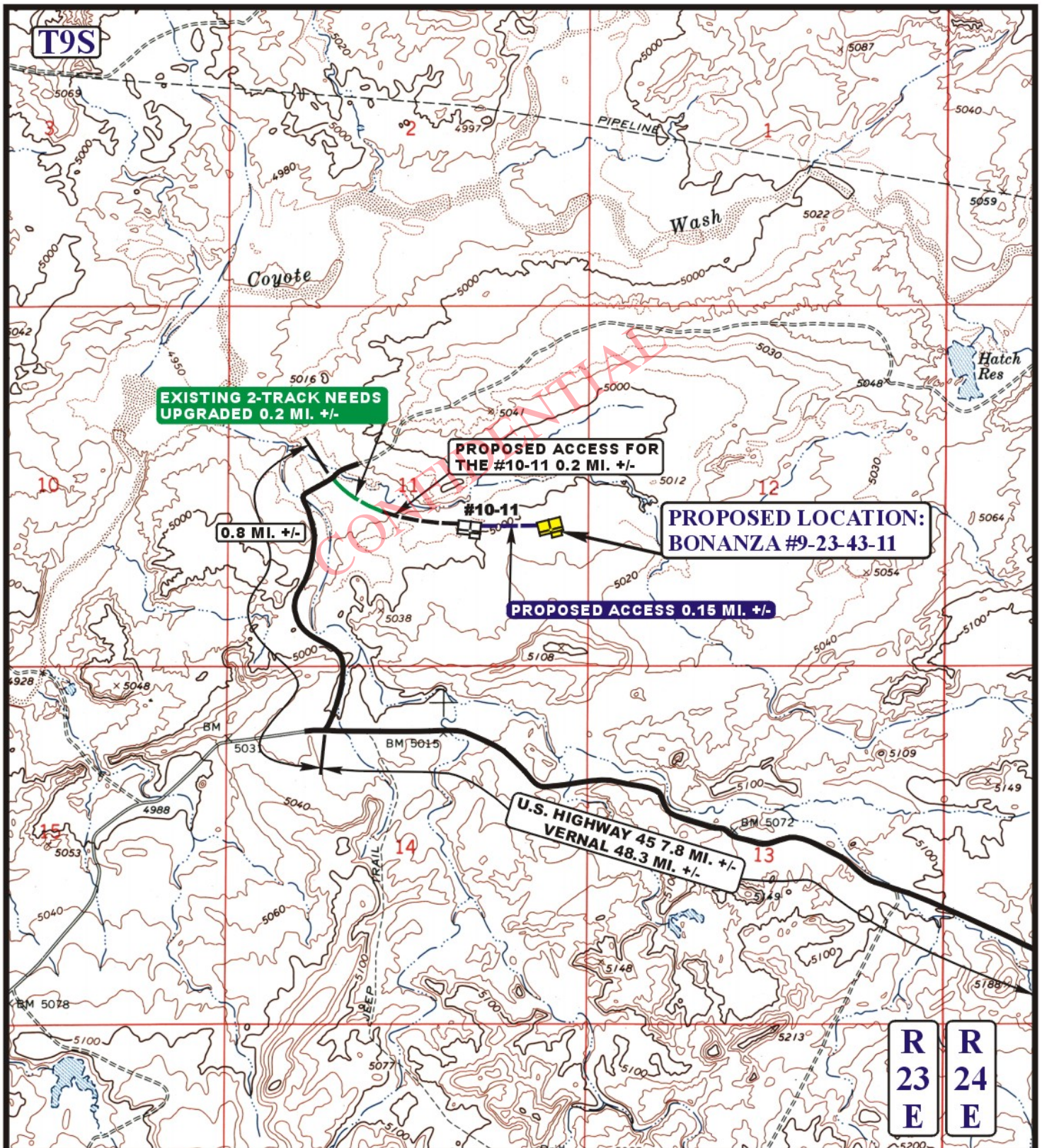


TOPOGRAPHIC
MAP

02 16 05
MONTH DAY YEAR

SCALE: 1:100,000 DRAWN BY: C.P. REV: 05-26-10 Z.L.

A
TOPO



LEGEND:

- EXISTING ROAD
- PROPOSED ACCESS ROAD
- EXISTING 2-TRACK NEEDS UPGRADED



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 85 South 200 East Vernal, Utah 84078
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ENDURING RESOURCES, LLC

BONANZA #9-23-43-11
SECTION 11, T9S, R23E, S.L.B.&M.
2008' FSL 553' FEL

TOPOGRAPHIC
MAP

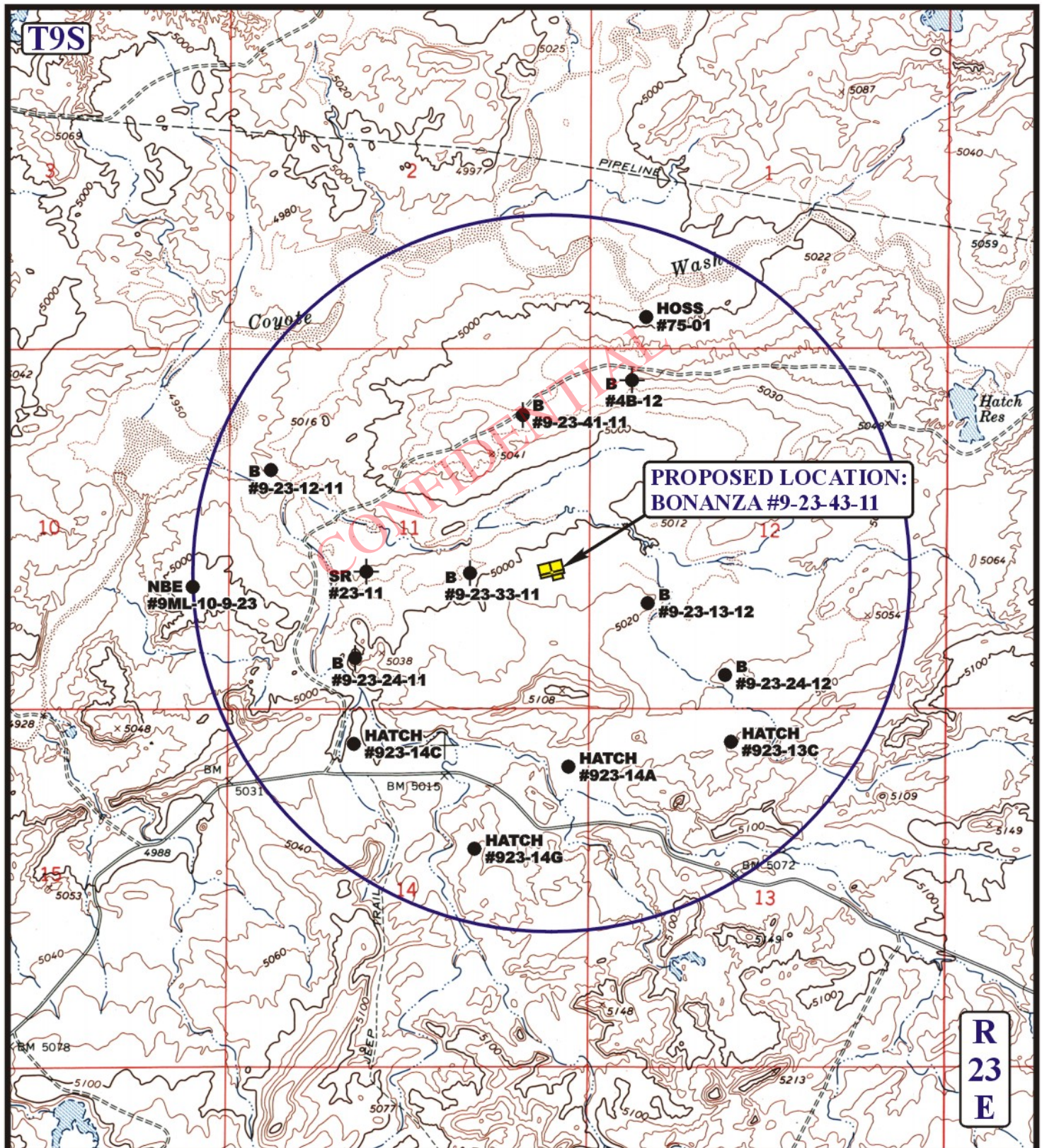
02 16 05
 MONTH DAY YEAR

SCALE: 1" = 2000'

DRAWN BY: C.P.

REV: 05-26-10 Z.L.

B
TOPO



LEGEND:

- | | |
|-------------------|-------------------------|
| ◐ DISPOSAL WELLS | ◐ WATER WELLS |
| ● PRODUCING WELLS | ● ABANDONED WELLS |
| ◑ SHUT IN WELLS | ● TEMPORARILY ABANDONED |



ENDURING RESOURCES, LLC

BONANZA #9-23-43-11
SECTION 11, T9S, R23E, S.L.B.&M.
2008' FSL 553' FEL

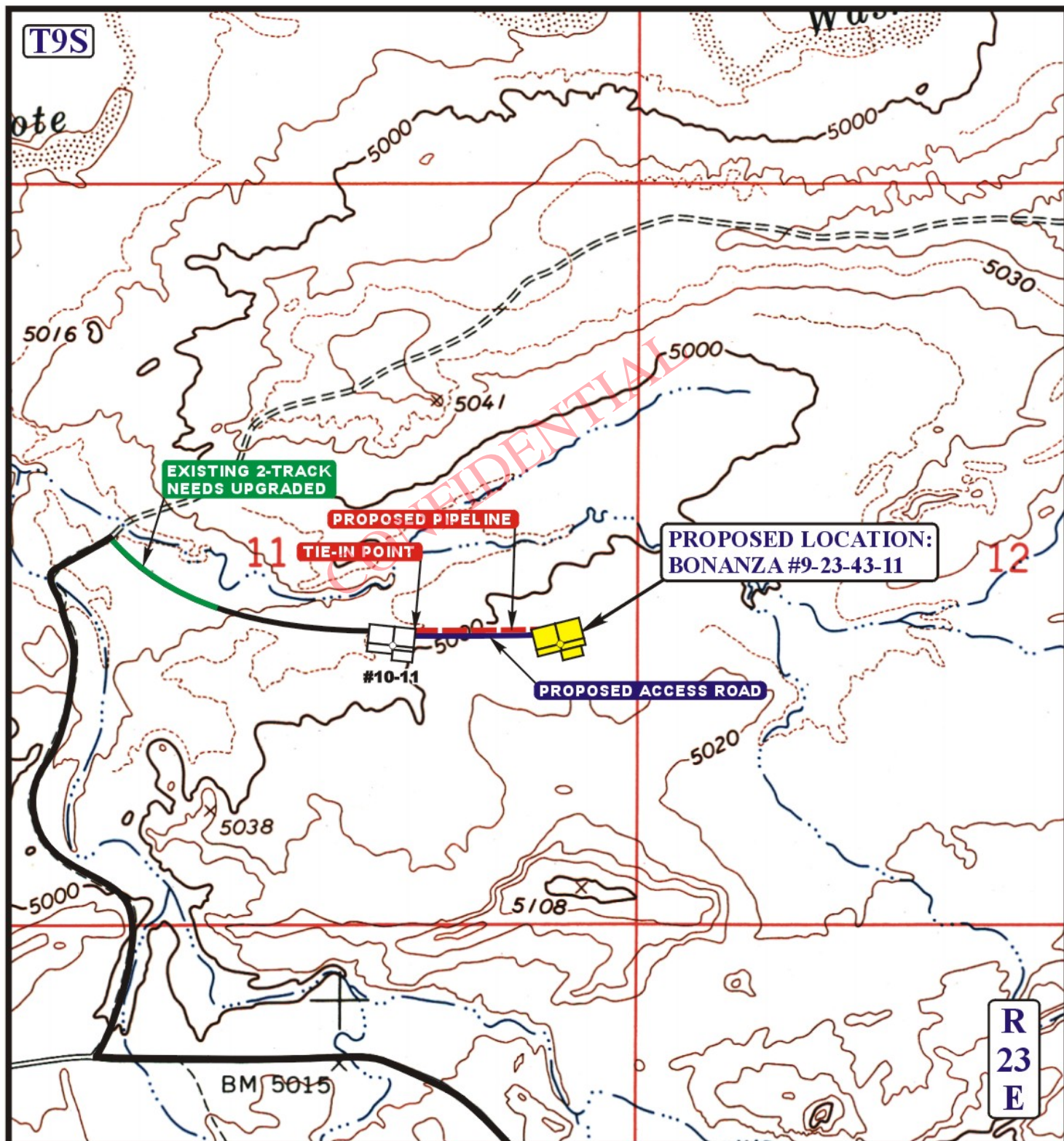


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 85 South 200 East Vernal, Utah 84078
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TOPOGRAPHIC **02 16 05**
MAP MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: C.P. REV: 05-26-10 Z.L.





APPROXIMATE TOTAL PIPELINE DISTANCE = 849' +/-

LEGEND:

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- - - - - PROPOSED PIPELINE
- EXISTING 2-TRACK NEEDS UPGRADED



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TOPOGRAPHIC
MAP

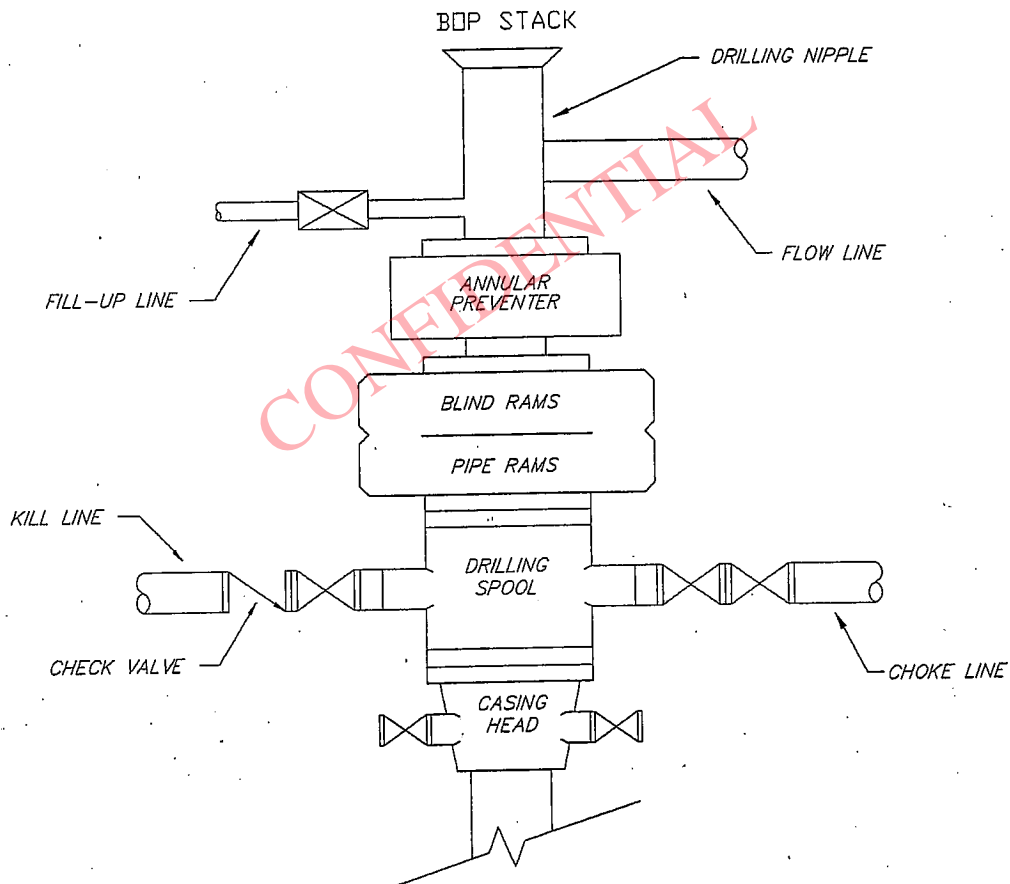
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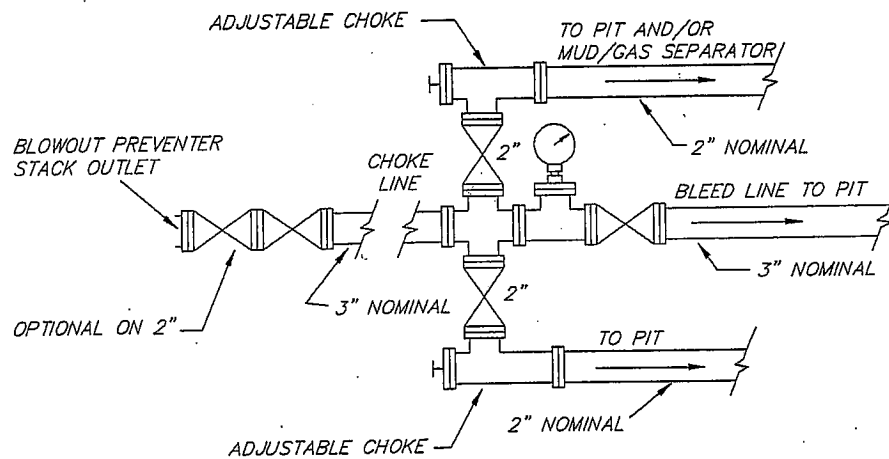
D
TOPO

ENDURING RESOURCES, LLC

TYPICAL 3,000 p.s.i. BLOWOUT PREVENTER SCHEMATIC



TYPICAL 3,000 p.s.i. CHOKE MANIFOLD SCHEMATIC



Paleontological Reconnaissance Report

**Houston's Proposed Well Pads, Access Roads and Pipelines for
"Bonanza #2-11-9-23; #5-11-9-23; #6-11-9-23; #7-11-9-23; #8-11-9-
23; #9-11-9-23; #11-11-9-23; #13-11-9-23; #14-11-9-23; #15-11-
9-23; #2-12-9-23; #3-12-9-23; #5-12-9-23; #6-12-9-23; #7-12-
9-23; #9-12-9-23; #10D-12-9-23; #11-12-9-23; #13-12-9-23;
#15-12-9-23; & #16-12-9-23" (Sec. 11 & 12, T 9 S, R 23 E)
& "Bonanza #4-35" (Sec. 35, T 9 S, R 24 E)**

**Red Wash SE & Southam Canyon
Topographic Quadrangles
Uintah County, Utah**

July 8, 2005

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INTRODUCTION

At the request of Ginger Stringham of Paradigm Consulting on behalf of The Houston Exploration Company, and authorized by John Mayers of the BLM Vernal Field Office, a paleontological reconnaissance survey of Houston's proposed well pads, access roads and pipelines for "Bonanza #2-11-9-23; #5-11-9-23; #6-11-9-23; #7-11-9-23; #8-11-9-23; #9-11-9-23; #11-11-9-23; #13-11-9-23; #14-11-9-23; #15-11-9-23; #2-12-9-23; #3-12-9-23; #5-12-9-23; #6-12-9-23; #7-12-9-23; #9-12-9-23; #10D-12-9-23; #11-12-9-23; #13-12-9-23; #15-12-9-23; & #16-12-9-23" (Sec. 11 & 12, T 9 S, R 23 E) & "Bonanza #4-35" (Sec. 35, T 9 S, R 24 E) was conducted by Stephen Sandau on June 21, 24 & July 1 and 8, 2005. The reconnaissance survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT-S-05-033. This survey to locate, identify and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321.et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579);
- 3) The National Historic preservation Act.16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603.

Under policy dictated by the BLM Manual and Handbook H-8270-1 (July, 1998) formations are ranked according to their paleontological potential:

- *Condition 1* is applied to those areas known to contain fossil localities, and special consideration of the known resources is in need of evaluation.
- *Condition 2* is applied to areas that have exposures of geologic rock units known to have produced fossils elsewhere.
- *Condition 3* is applied to areas unlikely to produce fossils based on surficial geology.

Although these guidelines apply mostly to vertebrate fossils on lands under the direction of the BLM, they are equally designed to help protect rare plant and invertebrate fossils and will be used here with reference to State managed lands. It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleoenvironmental, depositional, and chronostratigraphic indicators.

LOCATION

The proposed well pads and their associated access roads and pipelines for "Bonanza #2-11-9-23; #5-11-9-23; #6-11-9-23; #7-11-9-23; #8-11-9-23; #9-11-9-23; #11-11-9-23; #13-11-9-23; #14-11-9-23; #15-11-9-23; #2-12-9-23; #3-12-9-23; #5-12-9-23; #6-12-9-23; #7-12-9-23; #9-12-9-23; #10D-12-9-23; #11-12-9-23; #13-12-9-23; #15-12-9-23; & #16-12-9-23" & "Bonanza #4-35" are located in (Sec. 11 & 12, T 9 S, R 23 E) & (Sec. 35, T 9 S, R 24 E) respectively, on land managed by the BLM in the Coyote Wash area near Hatch Reservoir, some 5 miles northwest of Bonanza, Utah, and in the Wagon Hound Canyon area 1^{1/2} miles north of the White River, and some 2 miles southwest of Bonanza, Utah. The project area can be found on the Red Wash SE and Southam Canyon 7.5 minute U. S. Geological Survey Quadrangle Maps, Uintah County, Utah.

PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) and ranges in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992), and fauna (Black and Dawson, 1966) of North America.

GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events occurring during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta, and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929), and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands, and fluvial clays, muds and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology, and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

FIELD METHODS

In order to determine if the proposed access roads, pipelines and well pads from this project area contained any paleontological resources, a brief reconnaissance and/or a "drive-by" was preformed for each staked area. An on-site observation of the proposed areas undergoing surficial disturbance is necessary, because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces, and are of particular importance.

PROJECT AREA

The project area is situated in the Wagonhound Member (Uinta A & B) and the Myton Member (Uinta C) of the Uinta Formation with much of the area being covered in soil. The following list provides a description of the individual well sites and their proposed access roads and pipelines.

Bonanza #2-11-9-23

The proposed access road and pipeline for this location veer northwest off an existing road in the NW/NE quarter-quarter section of Sec. 11, T 9 S, R 23 E, crossing over soil-covered ground (Figure 1). A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.

Bonanza #5-11-9-23

Departing north/northwest off an established road and pipeline, the proposed access road and pipeline for this location curves to the west and travels along the foot of an east/west trending hill towards the well pad staked in the SW/NW quarter-quarter section of Sec. 11, T 9 S, R 23 E (Figure 1). The route traverses over exposures of eroded gray mudstone to the well pad which is staked at the end of the hill on ground dominated by soil, with lesser areas of eroded gray mudstone. A few scatter turtle shell fragments were found on the slopes of the hill north of the proposed access route but no fossils were found within the staked areas.

Bonanza #6-11-9-23

Veering northeast off the proposed access road and pipeline leading into "Bonanza #5-11-9-23", the short proposed access road and pipeline enter the well pad from the southwest. The access route and well pad are staked on ground mixed between soil-cover, and green and gray mudstone in the SE/NW quarter-quarter section of Sec. 11, T 9 S, R 23 E (Figure 1). Small hills to the east and to the north are capped by a tan to brown fluvial sandstone unit. No fossils were found.

Bonanza #7-11-9-23

The proposed access road and pipeline for this location veer southeast off an existing road in the SW/NE quarter-quarter section of Sec. 11, T 9 S, R 23 E, crossing over soil-covered ground (Figure 1). A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.

Bonanza #8-11-9-23

The proposed access road and pipeline for this location veer southeast off an existing road to the staked well pad in the SE/NE quarter-quarter section of Sec. 11, T 9 S, R 23 E, crossing over soil-covered ground (Figure 1). A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.

Bonanza #9-11-9-23

Heading east out of the existing well "Bonanza #10-11", the proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground to the well pad in the NE/SE quarter-quarter section of Sec. 11, T 9 S, R 23 E (Figure 1). The well pad is also staked on soil-covered ground with lesser areas of eroded gray mudstone. No fossils were found.

Bonanza #11-11-9-23

Departing south off an existing road in the NE/SW quarter-quarter section of Sec. 11, T 9 S, R 23 E, the short proposed access road and pipeline follow the route of an old access road leading into a shut-in well pad where the newly proposed well pad is staked (Figure 1). The well pad is flanked with low hills to the south and east where purple, green and gray mudstones and purple sandstone and siltstone units are exposed. No fossils were found at this location.

Bonanza #13-11-9-23

The short proposed access road and pipeline leading into this well site depart south off an existing road and pipeline in the SW/SW quarter-quarter section of Sec. 11, T 9 S, R 23 E to the well pad, which is staked on ground exposed in purple and green mudstones, and purple and tan sandstones. The well pad is situated on uneven ground cut by small ephemeral washes. No

fossils were found within the staked construction area, but a few turtle shell fragments and limb bone fragments were discovered on a small knoll just east of the construction site.

Bonanza #14-11-9-23

Veering southwest off the proposed access road and pipeline lead into the planned well pad "Bonanza #15-11-9-23", the proposed access road and pipeline for this location crosses over soil-covered ground till the route approaches the well pad, where it traverses across purple, gray, and green mudstones (Figure 1). The well pad is staked between two hills composed of the same mudstone units in the SE/SW quarter-quarter section of Sec. 11, T 9 S, R 23 E. Most of the pad bears exposures of eroded mudstones and is littered with sandstone colluvium and residuum. No fossils were found.

Bonanza #15-11-9-23

Departing south off an established road and pipeline leading into the well "Bonanza #10-11-9-23", the proposed access road and pipeline travel over ground covered in eolian sand and poor, sandy-soil to the well pad staked in the SW/SE quarter-quarter section of Sec. 11, T 9 S, R 23 E (Figure 1). The pad is situated on sandy-soil with lesser areas exposed in eroded gray mudstones. No fossils were found.

Bonanza #2-12-9-23

The proposed access road and pipeline diverge southeast off an established road, bending to the east and entering the staked well pad from the west in the NW/NE quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The access route and well pad are staked on soil-covered ground sloping slightly to the south, where lesser areas of gray to green mudstones area exposed. No fossils were found in this area.

Bonanza #3-12-9-23

Staked just south of an existing east/west running road, the well pad and short access road and pipeline which come off the proposed access road and pipeline leading into "Bonanza #6-12-9-23", are situated on sandy soil-covered ground sloping slightly to the south. The pad is staked in the NE/NW quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). No fossils were found.

Bonanza #5-12-9-23

The proposed access road and pipeline for this location veer southeast off the proposed access road and pipeline leading into the well "Bonanza #8-11-9-23". The proposed route crosses over soil-covered ground to the staked well pad in the SW/NW quarter-quarter section of Sec. 12, T 9 S, R 23 E, (Figure 2). A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.

Bonanza #6-12-9-23

The proposed access road and pipeline for this location head south off an established road, and travel for a quarter of a mile over eolian sand and soil-covered ground to the well pad staked in the SE/NW quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The pad is staked on the north side of a long, low east/west trending hill. The well pad is mixed between soil-covered ground and low hills of exposed gray and green mudstone units. No fossils were found within the staked construction area.

East of the proposed well pad location along the badland slopes of the east/west trending hill, six to seven scattered and fragmented turtle shells, some (*Echmatemys*), were discovered along with a number of small bone fragment from microfossils (Figure 2). Bone elements from animals the size of small dogs to squirrels were found weathering out of green and gray mudstones and out of a thin unit of clastic-breccia composed of green and red mud-clasts. Limb bone fragments, fish scales (*Lepisosteus*), and a single rodent tooth (unidentified thus far) were discovered. The fossil locality number "42Un1800V" is assigned to this area.

Bonanza #7-12-9-23

The proposed access road and pipeline for this location come off of the proposed access road and pipeline leading "Bonanza #6-12-9-23" to the west (Figure 2). The route travels over ground mostly covered in eolian sand and sandy-soil, with lesser areas exposed in gray mudstones and purple sandstones, siltstones and mudstones. The well pad is staked on ground exposed in green siltstones and mudstones along with purple and tan sandstones units. The location is situated on the southern slope of a long east/west trending hill in the SW/NE quarter-quarter section of Sec. 12, T 9 S, R 23 E. No fossils were found.

Bonanza #9-12-9-23

The proposed access road and pipeline for this well pad depart east off the proposed access road and pipeline leading into the planned well "Bonanza #10D-12-9-23". The route traverses over soil and sand-covered ground to the proposed well pad staked in the NW/SE quarter-quarter section of Sec. 12, T 9 S, R 23 E which is also staked on soil and sand-covered ground (Figure 2). No fossils were found.

On a staked access road and pipeline south of this location, which connects "Bonanza #9-12-9-23" and "Bonanza #16-12-9-23", fossil limb bone fragments from a collie sized animal were found along with turtle shell fragments (*Echmatemys*). The proposed access road and pipeline traverse over ground exposed in green and gray mudstones which these fossils were found weathering out of (Figure 2). The area east and southeast of the proposed access also bears fossil vertebrates, mammalian as well as reptilian, ranging in size from a sheep down to the size of a small cat. The fossil locality number "42Un1801V" is assigned to this area.

Bonanza #10D-12-9-23

The proposed access road and pipeline for this well pad depart southeast off the proposed access road and pipeline leading into the planned well "Bonanza #7-12-9-23". The route traverses over soil and sand-covered ground to the proposed well pad staked in the NE/SE quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The well pad is situated on ground covered in soil and eolian sand, with resistant sandstone residuum scattered over the area. No fossils were found.

Bonanza #11-12-9-23

The proposed access road and pipeline for this well pad depart south/southwest off the proposed access road and pipeline leading into the planned well "Bonanza #6-12-9-23". The route traverses over soil and sand-covered ground to the proposed well pad staked in the NE/SW quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The well pad is staked on flat soil-covered ground and no fossils were found.

Bonanza #13-12-9-23

Heading west off an existing road and pipeline in the SW/SW quarter-quarter section of Sec. 12, T 9 S, R 23 E, the short proposed access road and pipeline for this site travel over soil-covered ground with lesser areas exposed in gray mudstone (Figure 2). The well pad is staked on similar ground. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area..

Bonanza #15-12-9-23

Heading east out of the existing well "Bonanza #14-12", the proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground to the well pad in the SW/SE quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The well pad is also staked on soil-covered ground with lesser areas of eroded gray mudstone. No fossils were found.

Bonanza #16-12-9-23

Heading east out of the proposed well "Bonanza #15-12", the proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground to the well pad in the SE/SE quarter-quarter section of Sec. 12, T 9 S, R 23 E (Figure 2). The well pad is staked on low rolling hills covered in soil and eolian sand, with lesser areas of eroded gray mudstone. No fossils were found.

Bonanza #4-35

The proposed access road for this location veer northwest off an old two-track slated for an upgrade in the NW/NW quarter-quarter section of Sec. 35, T 9 S, R 24 E (Figure 3). The short access road enters the well pad from the southeast which is staked at the foot of the south side of the canyon wall. The area is fairly steep and exposures of stacked green siltstones and mudstone together with large units of tan fluvial sandstones make up the canyon walls. An ephemeral wash lines the southwestern edge of the well pad. No fossils were found in this area.

SURVEY RESULTS

WELL	GEOLOGY	PALEONTOLOGY
"Bonanza #2-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline for this location cross over soil-covered ground. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.	No fossil found. Condition 3
"Bonanza #5-11-9-23" (Sec. 11, T 9 S, R 23 E)	The route traverses over exposures of eroded gray mudstone to the well pad which is staked at the end of the hill on ground dominated by soil, with lesser areas of eroded gray mudstone.	A few scatter turtle shell fragments were found on the slopes of the hill north of the proposed access route but no fossils were found within the staked areas. Condition 2

"Bonanza #6-11-9-23" (Sec. 11, T 9 S, R 23 E)	The access route and well pad are staked on ground mixed between soil-cover, and green and gray mudstone. Small hills to the east and to the north are capped by a tan to brown fluvial sandstone unit.	No fossil found. Condition 2
"Bonanza #7-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline for this cross over soil-covered ground. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.	No fossil found. Condition 3
"Bonanza #8-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline for this cross over soil-covered ground. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.	No fossil found. Condition 3
"Bonanza #9-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground to the well. The well pad is also staked on soil-covered ground with lesser areas of eroded gray mudstone.	No fossil found. Condition 3
"Bonanza #11-11-9-23" (Sec. 11, T 9 S, R 23 E)	The well pad is flanked with low hills to the south and east where purple, green and gray mudstones and purple sandstone and siltstone units are exposed.	No fossil found. Condition 2
"Bonanza #13-11-9-23" (Sec. 11, T 9 S, R 23 E)	The well pad is staked on ground exposed in purple and green mudstones, and purple and tan sandstones. The well pad is situated on uneven ground cut by small ephemeral washes.	No fossils were found within the staked construction area, but a few turtle shell fragments and limb bone fragments were discovered on a small knoll just east of the construction site. Condition 2
"Bonanza #14-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline for this location crosses over soil-covered ground till the route approaches the well pad, where it traverses across purple, gray, and green mudstones. The well pad is staked between two hills composed of the same mudstone units. Most of the pad bears exposures of eroded mudstones and is littered with sandstone colluvium and residuum.	No fossil found. Condition 2
"Bonanza #15-11-9-23" (Sec. 11, T 9 S, R 23 E)	The proposed access road and pipeline travel over ground covered in eolian sand and poor, sandy-soil to the well pad. The pad is situated on sandy-soil with lesser areas exposed in eroded gray mudstones.	No fossil found. Condition 3

"Bonanza #2-12-9-23" (Sec. 12, T 9 S, R 23 E)	The access route and well pad are staked on soil-covered ground sloping slightly to the south, where lesser areas of gray to green mudstones area exposed.	No fossil found. Condition 2
"Bonanza #3-12-9-23" (Sec. 12, T 9 S, R 23 E)	The well pad and short access road and pipeline are situated on sandy soil-covered ground sloping slightly to the south.	No fossil found. Condition 3
"Bonanza #5-12-9-23" (Sec. 12, T 9 S, R 23 E)	The proposed route crosses over soil-covered ground to the staked well pad. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.	No fossil found. Condition 3
"Bonanza #6-12-9-23" (Sec. 12, T 9 S, R 23 E)	The proposed access road and pipeline for this location travel for a quarter of a mile over eolian sand and soil-covered ground. The pad is staked on the north side of a long, low east/west trending hill. The well pad is mixed between soil-covered ground and low hills of exposed gray and green mudstone units	<p>No fossils were found within the staked construction area. Condition 2.</p> <p>East of the proposed well pad location along the badland slopes of the east/west trending hill, six to seven scattered and fragmented turtle shells, some (<i>Echmatemys</i>), were discovered along with a number of small bone fragment from microfossils (Figure 2). Bone elements from animals the size of small dogs to squirrels were found weathering out of green and gray mudstones and out of a thin unit of clastic-breccia composed of green and red mud-clasts. Limb bone fragments, fish scales (<i>Lepisosteus</i>), and a single rodent tooth (unidentified thus far) were discovered. The fossil locality number "42Un1800V" is assigned to this area. Condition 1</p>
"Bonanza #7-12-9-23" (Sec. 12, T 9 S, R 23 E)	The route travels over ground mostly covered in eolian sand and sandy-soil, with lesser areas exposed in gray mudstones and purple sandstones, siltstones and mudstones. The well pad is staked on ground exposed in green siltstones and mudstones along with purple and tan sandstones units. The location is situated on the southern slope of a long east/west trending hill.	No fossil found. Condition 2

<p>"Bonanza #9-12-9-23" (Sec. 12, T 9 S, R 23 E)</p>	<p>The route traverses over soil and sand-covered ground to the proposed well pad staked which is also staked on soil and sand-covered ground.</p>	<p>No fossil found. Condition 3</p> <p>On a staked access road and pipeline south of this location, which connects "Bonanza #9-12-9-23" and "Bonanza #16-12-9-23", fossil limb bone fragments from a collie sized animal were found along with turtle shell fragments (<i>Echmatemys</i>). The proposed access road and pipeline traverse over ground exposed in green and gray mudstones which these fossils were found weathering out of (Figure 2). The area east and southeast of the proposed access also bears fossil vertebrates, mammalian as well as reptilian, ranging in size from a sheep down to the size of a small cat. The fossil locality number "42Un1801V" is assigned to this area.</p> <p>Condition 1</p>
<p>"Bonanza #10D-12-9-23" (Sec. 12, T 9 S, R 23 E)</p>	<p>The route traverses over soil and sand-covered ground to the proposed well. The well pad is situated on ground covered in soil and eolian sand, with resistant sandstone residuum scattered over the area.</p>	<p>No fossil found. Condition 2</p>
<p>"Bonanza #11-12-9-23" (Sec. 12, T 9 S, R 23 E)</p>	<p>The route traverses over soil and sand-covered ground to the proposed well pad. The well pad is staked on flat soil-covered ground.</p>	<p>No fossil found. Condition 3</p>
<p>"Bonanza #13-12-9-23" (Sec. 12, T 9 S, R 23 E)</p>	<p>The short proposed access road and pipeline for this site travel over soil-covered ground with lesser areas exposed in gray mudstone. The well pad is staked on similar ground. A "drive-by", was preformed for this location due of the lack of outcrop within the staked construction area.</p>	<p>No fossil found. Condition 3</p>
<p>"Bonanza #15-12-9-23" (Sec. 12, T 9 S, R 23 E)</p>	<p>The proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground. The well pad is also staked on soil-covered ground with lesser areas of eroded gray mudstone.</p>	<p>No fossil found. Condition 2</p>

"Bonanza #16-12-9-23" (Sec. 12, T 9 S, R 23 E)	The proposed access road and pipeline for this location traverse over eolian sand and sandy soil-covered ground. The well pad is staked on low rolling hills covered in soil and eolian sand, with lesser areas of eroded gray mudstone.	No fossil found. Condition 2
"Bonanza #4-35" (Sec. 35, T 9 S, R 24 E)	The proposed access road for this location veer northwest off an old two-track slated for an upgrade. The short access road enters the well pad from the southeast which is staked at the foot of the south side of the canyon wall. The area is fairly steep and exposures of stacked green siltstones and mudstone together with large units of tan fluvial sandstones make up the canyon walls. An ephemeral wash lines the southwestern edge of the well pad.	No fossil found. Condition 2

RECOMMENDATIONS

The reconnaissance surveys and/or "drive-by's" for the proposed well pads for "Bonanza #2-11-9-23; #5-11-9-23; #6-11-9-23; #7-11-9-23; #8-11-9-23; #9-11-9-23; #11-11-9-23; #13-11-9-23; #14-11-9-23; #15-11-9-23; #2-12-9-23; #3-12-9-23; #5-12-9-23; #6-12-9-23; #7-12-9-23; #9-12-9-23; #10D-12-9-23; #11-12-9-23; #13-12-9-23; #15-12-9-23; & #16-12-9-23" (Sec. 11 & 12, T 9 S, R 23 E) & "Bonanza #4-35" (Sec. 35, T 9 S, R 24 E) and their associated access roads and pipelines was brief. The areas examined showed little to no signs of fossil material inside the proposed construction sites. Therefore, we recommend that no paleontological limitation should be imposed upon construction related to the development of the well pads and their coupled access roads within the project area covered in this report, **with the exception of the access road which connects "Bonanza #9-12-9-23" and "Bonanza #16-12-9-23". This proposed access road and pipeline run through an area assigned the fossil locality number "42Un1801V". It is recommended that this access be monitored by a permitted paleontologist or that the access be moved some 100 meters to the west to avoid this area marked as "Condition 1"**

The other areas marked as "Condition 1" is the area within the fossil locality "42Un1800V" east of the proposed well location "Bonanza #6-12-9-23". This area falls outside any slated construction at present and will not be disturbed. If construction in the future is planned for this area, we recommend that a permitted paleontologist monitor any construction.

However, if vertebrate fossil(s) are found during construction within the project area, recommendations are that a paleontologist is immediately notified in order to collect fossil materials in danger of being destroyed. Any vertebrate fossils found should be carefully moved outside of the construction areas to be checked by a permitted paleontologist.

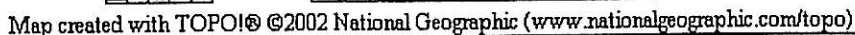
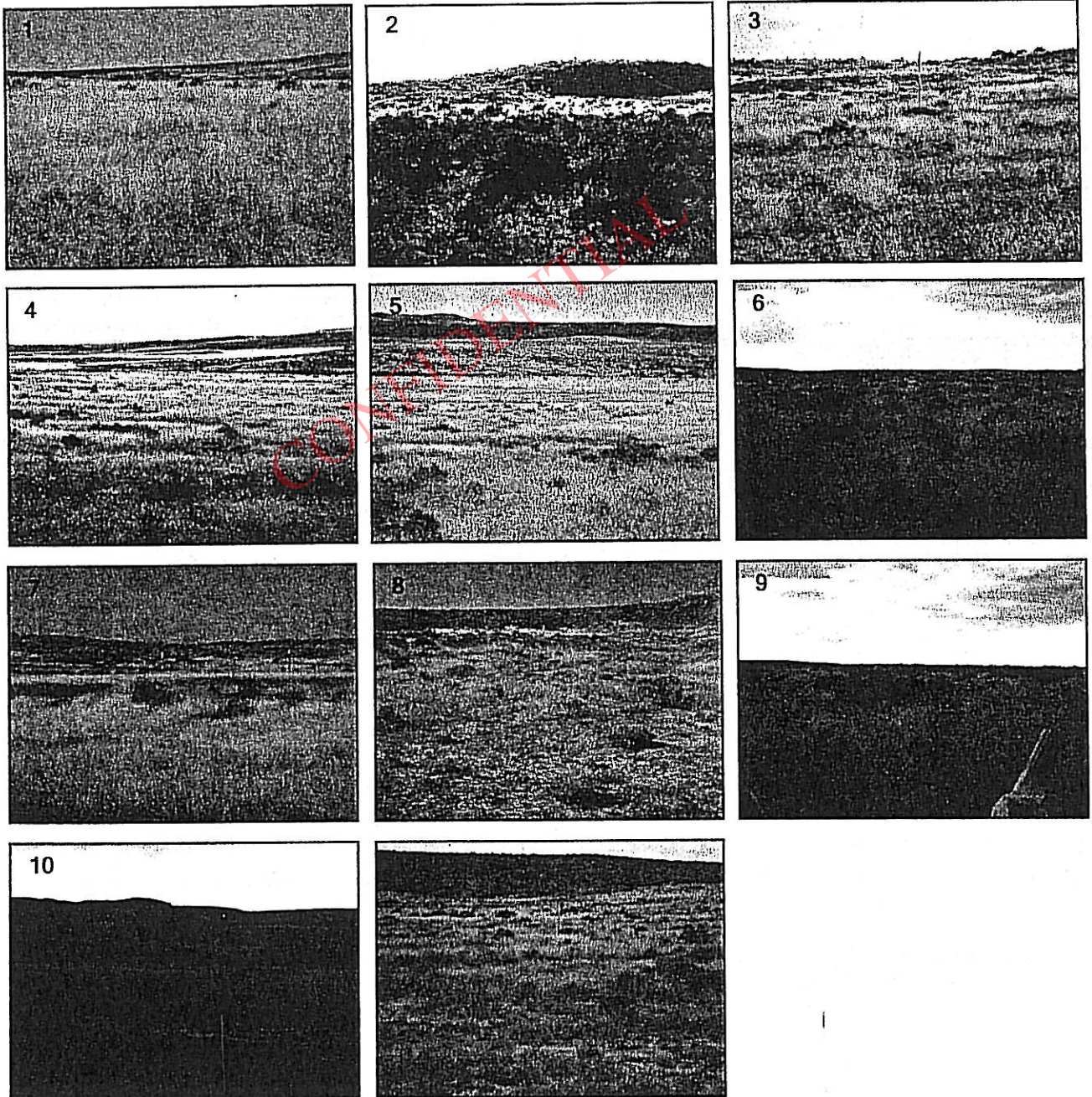


Figure 1. *continued...*



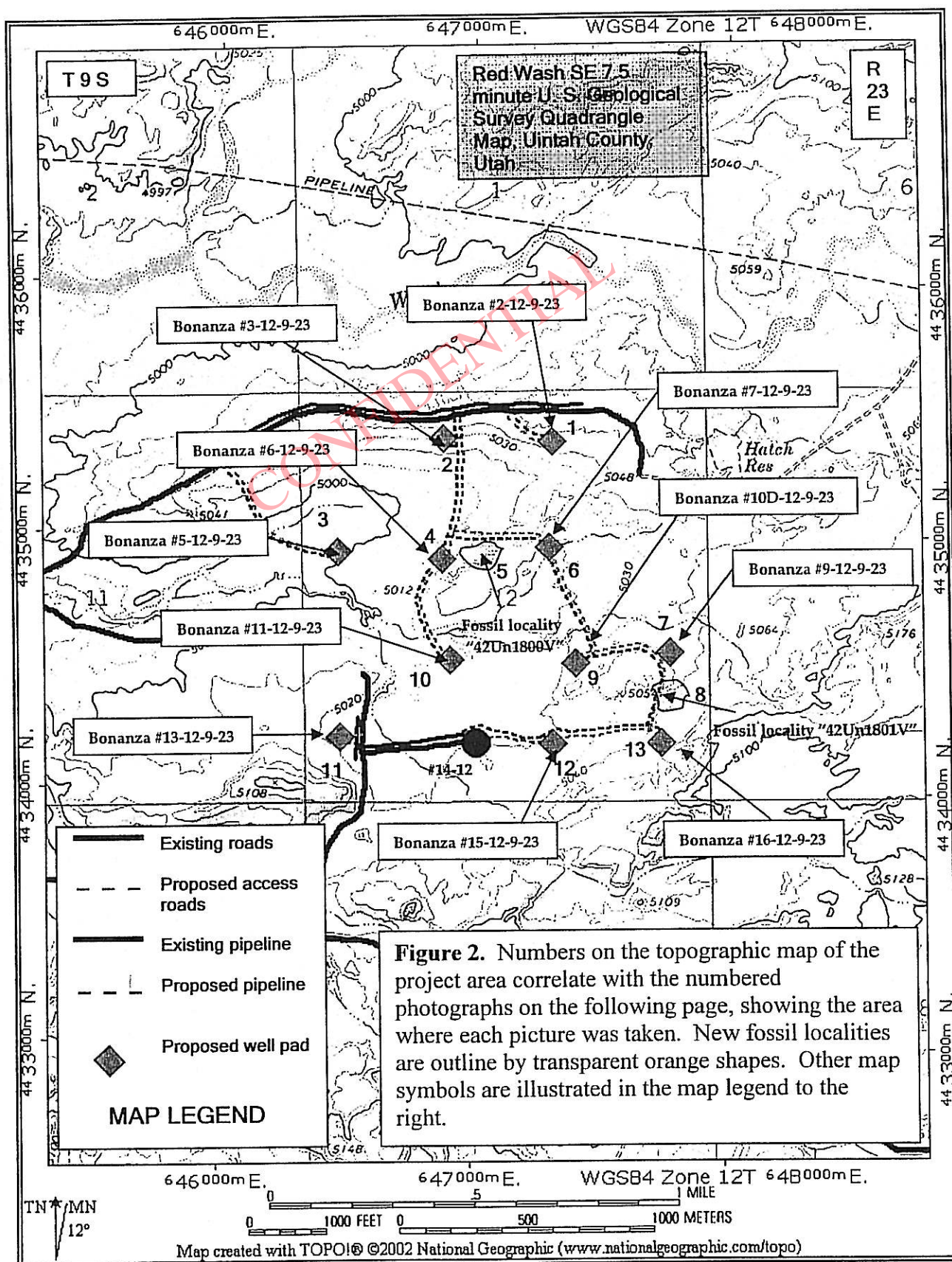


Figure 2. continued...

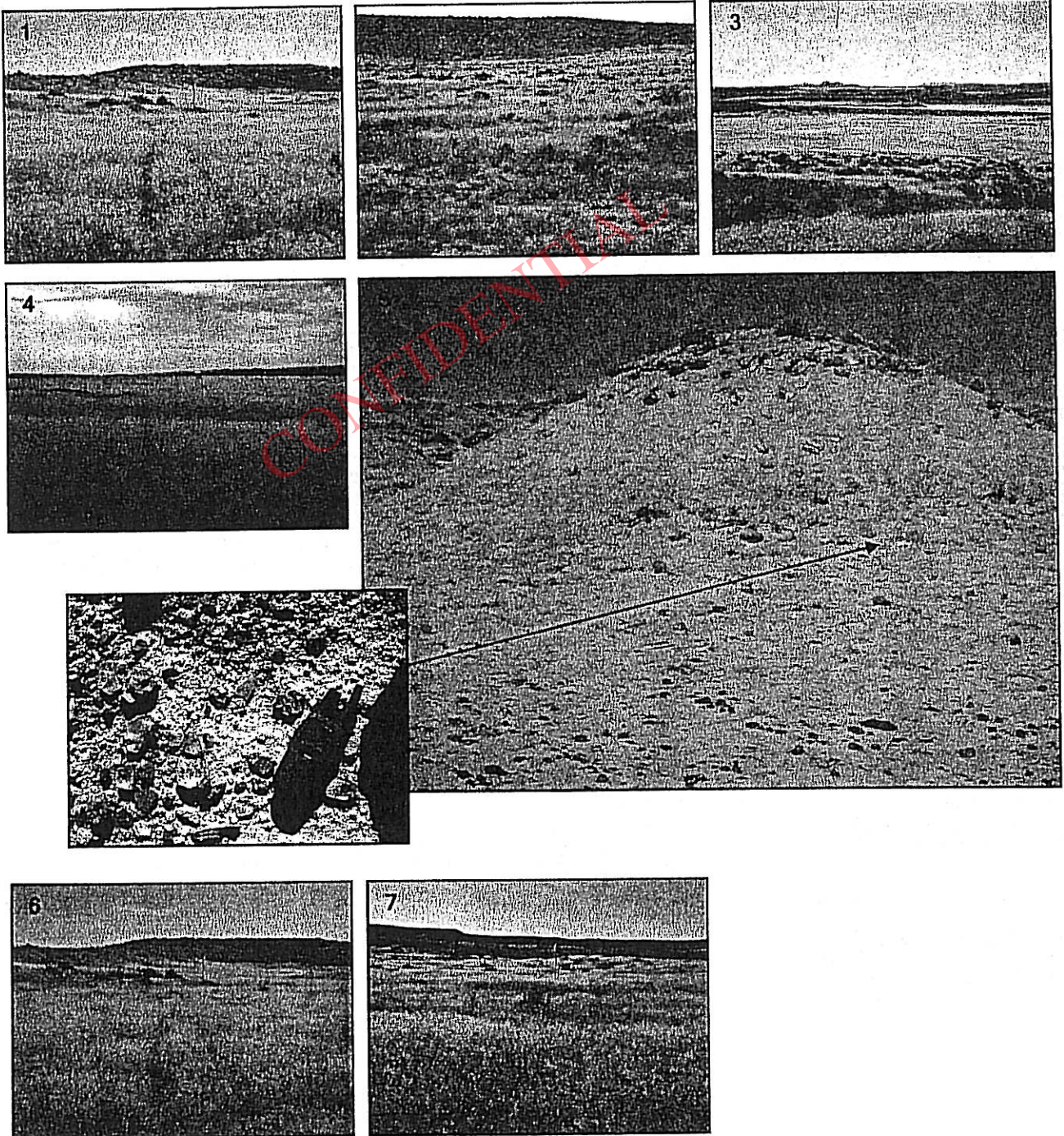
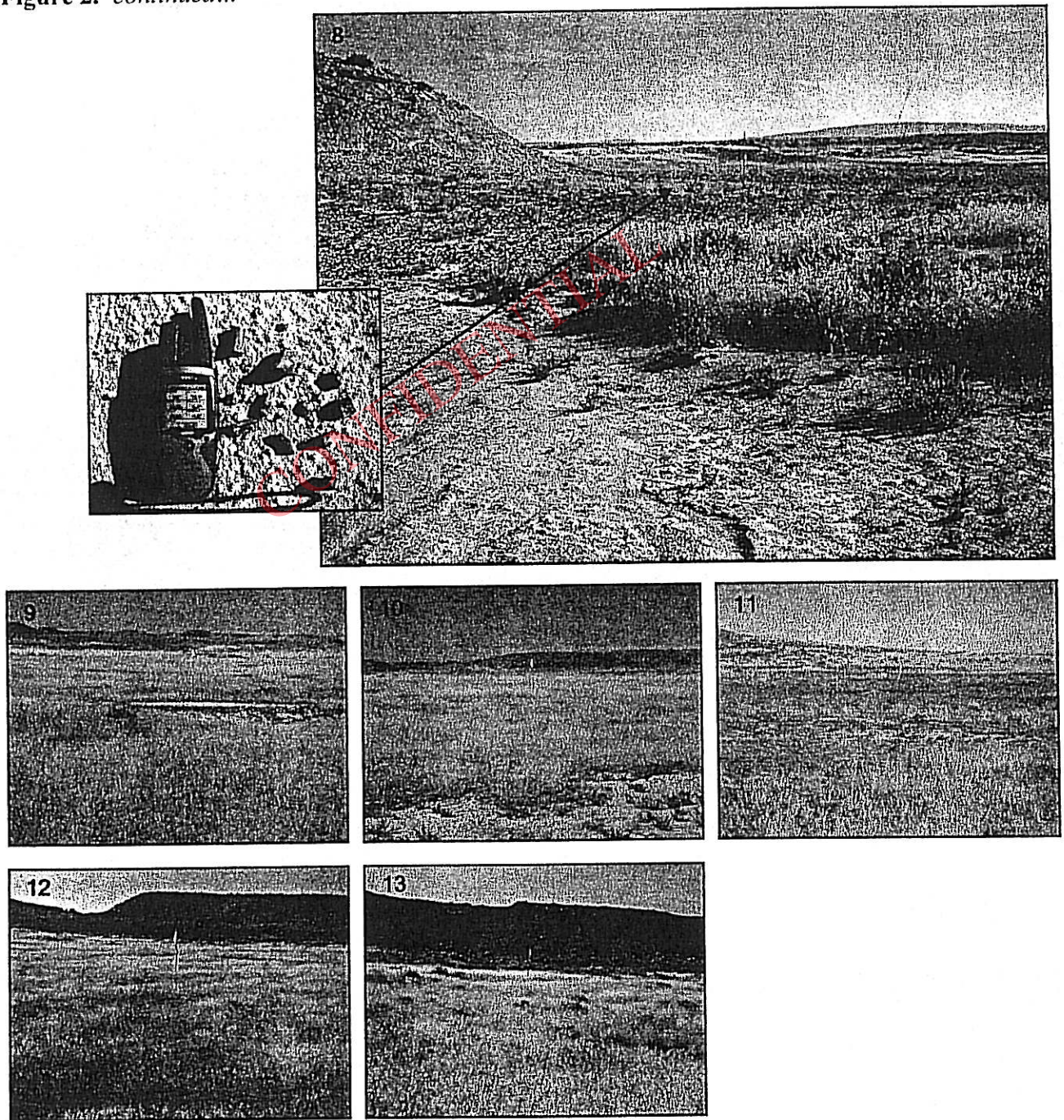
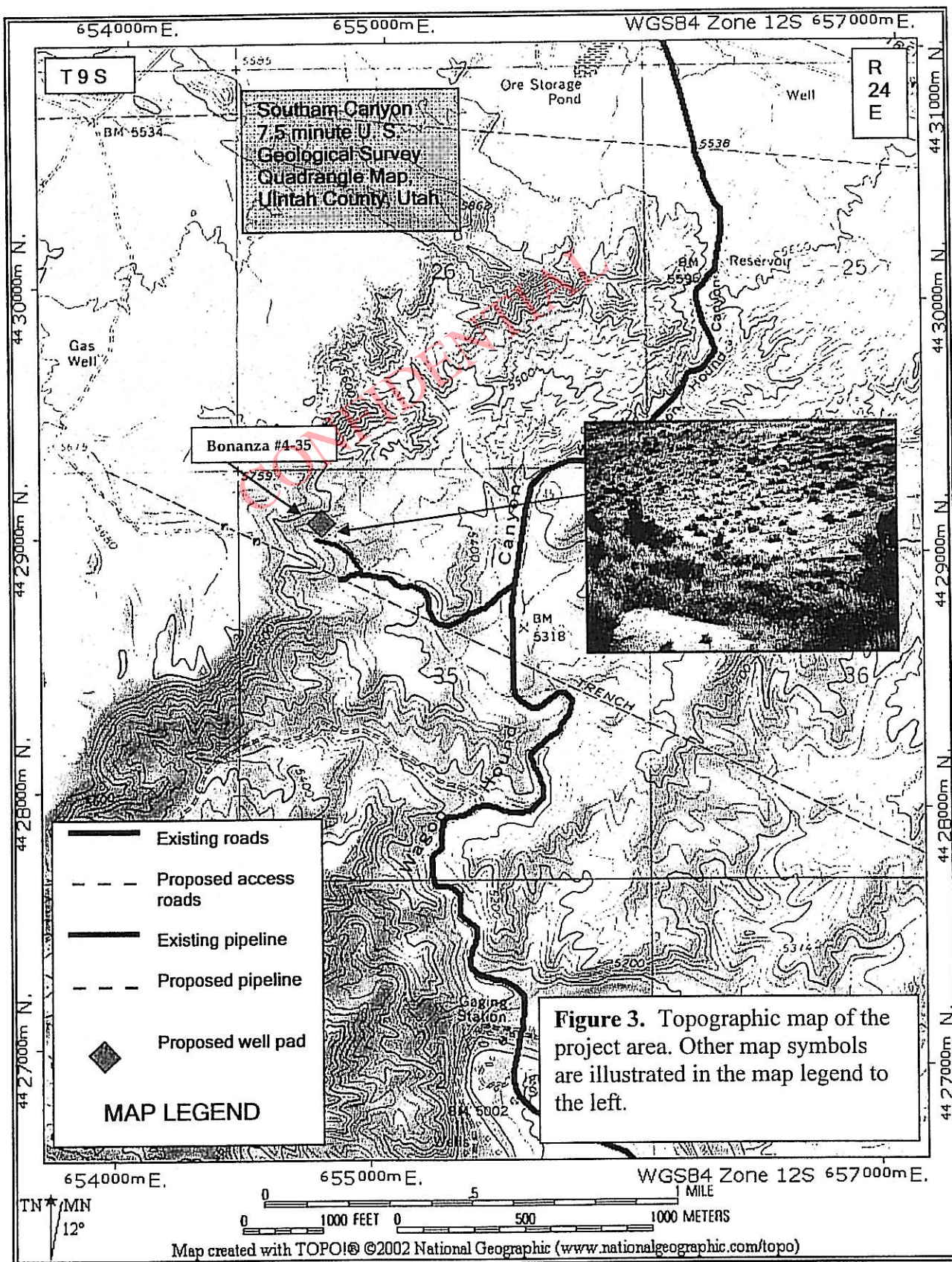


Figure 2. *continued...*





- _____. 1929, The Titanotheres of Ancient Wyoming, Dakota and Nebraska: Monograph of the U. S. Geological Survey, v. 55, p. 1-953.
- Peterson, O. A. and Kay, J. L., 1931, The Upper Uinta Formation of Northeastern Utah: Annals of the Carnegie Museum, v. 20, p. 293-306.
- Prothero, D. R., 1996, Magnetic Stratigraphy and biostratigraphy of the middle Eocene Uinta Formation, Uinta Basin, Utah, *in* Prothero, D. R., and Emry, R. J. editors, The Terrestrial Eocene-Oligocene Transition in North America, p. 3-24.
- Rasmussen, D. T., Conroy, G. C., Friscia, A. R., Townsend, K. E. and Kinkel, M. D., 1999, Mammals of the middle Eocene Uinta Formation: Vertebrate Paleontology of Utah, p. 401-420.
- Riggs, E. S., 1912. New or Little Known Titanotheres from the Lower Uintah Formations: Field Museum of Natural History Geological Series, v, 159, p.17-41.
- Ryder, R. T., Fouch, T. D., Elison, J. H., 1976, Early Tertiary sedimentation in the western Uinta Basin, Utah: Geological Society of America Bulletin v. 87, p. 496-512.
- Stucky, R. K., 1992, Mammalian faunas in North America of Bridgerian to early Arikareean "age" (Eocene and Oligocene), in Prothero, D. R., and Berggren, W. A., eds., Eocene-Oligocene climatic and biotic evolution: Princeton University Press, p. 464-493.
- Wood, H. E., 1934, Revision of the Hyrachyidae: American Museum of Natural History Bulletin, v. 67, p. 181-295.
- _____. and others, 1941, Nomenclature and Correlation of the North America Continental Tertiary: Geol. Soc. Amer. Bull., v. 52, no. 1, Jan. 1, p. 1-48.

**Enduring Resources, LLC
Bonanza 9-23-43-11
NESE 11-T9S-R23E
Uintah County, Utah
Federal Lease: UTU-74426**

MULTI-POINT SURFACE USE & OPERATIONS PLAN

1. Existing Roads:

Proceed in an easterly then southerly direction from Vernal, Utah along US Highway 40 approximately 3.9 miles to the junction of State Highway 45; exit right and proceed in a southerly, then southeasterly direction approximately 36.6 miles on State Highway 45 to the junction of this road and an existing road to the west; turn right and proceed in a westerly, then northwesterly direction approximately 7.8 miles to the junction of this road and an existing road to the north; turn right and proceed in a northerly, then northeasterly direction approximately 0.8 to the junction of this road and an existing two track road to the southeast; turn right and proceed in a southeasterly direction approximately 0.2 miles to the beginning of the proposed access for the #10-11 (nka 9-23-33-11) and the beginning of the proposed access to the east; follow road flags in an easterly direction approximately 0.2 mile to the proposed #10-11 (nka 9-23-33-11) well site and then an additional 0.2 mile to the proposed location.

Total distance from Vernal, Utah to the proposed well location is approximately 49.65 miles.

2. Planned Access Roads:

The proposed access road will be approximately 0.2 mile of new construction (and an additional 0.2 mile of new construction if this well is drilled before the #10-11 (nka 9-23-33-11) all on-lease and 0.2 mile of an existing two track that will need up grade.

The proposed access road will be utilized to transport personnel, equipment and supplies to and from the proposed well site during drilling, completion and production operations. The road will be utilized year round.

The access road will be crowned 2% to 3%, ditched and constructed with a running surface of 18 feet and a maximum disturbed width of 30 feet right-of-way. Maximum grade of road is 5% or less. Graveling or capping the roadbed will be performed as necessary to provide a well constructed, safe road. No fence crossings, culverts, turnouts, cattle guards or major cuts and fills are required. Prior to construction or upgrading, the proposed road shall be cleared of any snow and allowed to dry completely.

Surface disturbance and vehicular traffic will be limited to the proposed location and proposed access route. Any additional area needed will be approved in advance. All construction shall be in conformance with the standards outlined in

the BLM and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development. 1989.

The road surface and shoulders will be kept in a safe usable condition and will be maintained in accordance with the original construction standards. All drainage ditches will be kept clear and free flowing and will be maintained according to original construction standards. The access road surface will be kept free of trash during operations. All traffic will be confined to the approved disturbed surface. Road drainage crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossing nor shall the drainages be blocked by the road bed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions. Should mud holes develop, they shall be filled in and detours around them avoided. When snow is removed from the road during the winter months, the snow shall be pushed outside of the borrow ditches and the turnouts kept clear so that snowmelt will be channeled away from the road.

3. **Location of Existing Wells within a One-Mile radius (See "Topo" Map "C" attached):**

The following wells are within a one (1) mile radius of the proposed location.

Operator	Well Name	Well Status	Qtr/Qtr	Sec	T-R
QUESTAR	NBE 15ML-10-9-23	Shut-In	SWSE	10	9S-23E
ENDURING	BONANZA 9-23-11-11	Approved permit (APD)	NWNW	11	9S-23E
ENDURING	BONANZA 9-23-14-11	Approved permit (APD)	SWSW	11	9S-23E
ENDURING	BONANZA 9-23-13-11	Approved permit (APD)	NWSW	11	9S-23E
ENDURING	BONANZA 9-23-21-11	Approved permit (APD)	NENW	11	9S-23E
ENDURING	BONANZA 9-23-23-11	Approved permit (APD)	NESW	11	9S-23E
ENDURING	BONANZA 9-23-34-11	Approved permit (APD)	SWSE	11	9S-23E
ENDURING	BONANZA 9-23-42-11	Approved permit (APD)	SENE	11	9S-23E
ENDURING	BONANZA 9-23-43-11	Location Abandoned	NESE	11	9S-23E
ENDURING	BONANZA 9-23-31-11	Location Abandoned	NWNE	11	9S-23E
ENDURING	BONANZA 9-23-13-11	Location Abandoned	NWSW	11	9S-23E
ENDURING	BONANZA 9-23-32-11	Location Abandoned	SWNE	11	9S-23E
ENDURING	BONANZA 9-23-22-11	Location Abandoned	SENW	11	9S-23E
ENDURING	SAND RIDGE 23-11	Plugged and Abandoned	NESW	11	9S-23E
ENDURING	BONANZA 9-23-12-11	Producing	SWNW	11	9S-23E
ENDURING	BONANZA 9-23-41-11	Shut-In	NENE	11	9S-23E
ENDURING	BONANZA 9-23-33-11	Shut-In	NWSE	11	9S-23E
ENDURING	BONANZA 9-23-24-11	Shut-In	SESW	11	9S-23E
ENDURING	BONANZA 9-23-31-12	Approved permit (APD)	NWNE	12	9S-23E
ENDURING	BONANZA 9-23-32-12	Approved permit (APD)	SWNE	12	9S-23E
ENDURING	BONANZA 9-23-34-12	Approved permit (APD)	SWSE	12	9S-23E
ENDURING	BONANZA 9-23-12-12	Approved permit (APD)	SWNW	12	9S-23E
ENDURING	BONANZA 9-23-21-12	Approved permit (APD)	NENW	12	9S-23E
ENDURING	BONANZA 9-23-33-12	Approved permit (APD)	NWSE	12	9S-23E
ENDURING	BONANZA 9-23-22-12	Location Abandoned	SENW	12	9S-23E
ENDURING	BONANZA 9-23-23-12	Location Abandoned	NESW	12	9S-23E
ENDURING	BONANZA 9-23-14-12	Location Abandoned	SWSW	12	9S-23E

QUESTAR	NBE 8ML-12-9-23	Shut-In	SENE	12	9S-23E
CONTINENTAL	CHAPITA FED 13-3	Location Abandoned	C-NW	13	9S-23E
CONTINENTAL	CHAPITA FED 14-4	Location Abandoned	C-NW	14	9S-23E

4. **Location of Existing and/or Proposed Facilities:**

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e. production tanks, produced water tanks and/or heater treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank and be independent of the back cut.

All permanent (on site for six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth tone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Inter-Agency Committee

All facilities will be painted within 6 months of installation. The color shall be designated by DOG&M and SITLA. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

Gas Gathering Pipeline for this well will be:

*849' Surface Pipeline On-Lease BLM

and an addition 2,112' of pipeline if this well is drilled before the #10-11 (nka 9-23-33-11) all On-Lease, BLM surface.

If the well is capable of economic production, a surface gas gathering line and related equipment shall be installed for year around usage. Approximately *849 feet of 6" or less surface gas gathering pipeline shall be laid to minimize surface disturbance.

The proposed pipeline will begin at the well site, be laid on the surface and tie into an existing surface pipeline. This lease is on fee lands; right of way has been applied for and copy will be provided when received.

The meter run will be housed. The gas gathering line will be buried or anchored down from the wellhead to the meter.

Upon plugging and abandonment, the gas gathering line will be removed and the disturbed area will be re-contoured and restored as near as practical to the original condition. If necessary, re-seeding operations will be performed after completion of other reclamation operations.

5. Location and Type of Water Supply:

Water will be purchased from C & D Trucking from the following source: Water Right No. 49-2310, Application/Claim No.T78632, or from other commercial water sources.

Water will be hauled to the location over the roads marked on "Topo" Maps "A" and "B."

No water well is to be drilled on this lease.

6. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized for location and access road construction.

Any gravel will be obtained from a commercial source; however, gravel sized rock debris associated with location and access road construction may be used as access road surfacing material.

7. Methods of Handling Waste Materials:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, contained in the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break or allow discharge of liquids.

The reserve pit will be lined with ¼ felt and a minimum of 16 mm plastic with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

A chemical portable toilet will be furnished with the drilling rig. The toilet will be replaced periodically utilizing a licensed contractor to transport by truck the portable chemical toilet so that its contents can be delivered to the Vernal Wastewater Treatment Facility in accordance with state and county regulations.

Garbage, trash and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be

cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported or disposed of in association with the drilling, completion or testing of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported or disposed of in association with the drilling, completion or testing of this well.

Produced oil will be stored in an oil tank and then hauled by truck to a crude purchaser facility. Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to an approved disposal site.

8. **Ancillary Facilities:**

During drilling operations, approximately 20 days, the site will be a manned camp. Three or four additional trailers will be on location to serve as the crews' housing and eating facilities. These will be located on the perimeter of the pad site within the topsoil stockpiles. Refer to Sheet 3.

9. **Well Site Layout: (Refer to Sheets #2, #3, and #4)**

The attached Location Layout Diagrams describe drill pad cross-sections, cuts and fills and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s) and surface material stockpiles(s).

Please see the attached diagram for rig orientation and access roads.

The top soil will be windrowed rather than piled. It will be re-seeded and track walked at the time the location is constructed. Seeding will be determined during the onsite.

The top soil removed from the pit area will be stored separately and will not be reseeded until the pit is reclaimed.

All pits shall be fence to the following minimum standards:

- a. 39 inch net wire shall be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- b. The net wire shall be no more than 2 inches above the ground. The barbed wire shall be 3 inches over the new wire. Total height of the fence shall be at least 42 inches.
- c. Corner posts shall be cemented and/or braced in such a manner as to keep the fence tight at all times.

- d. Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two fence posts shall be no greater than 16 feet.
- e. All wire shall be stretched by, using a stretching device, before it is attached to corner posts.
- f. The reserve pit fencing will be on three sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.
- g. Location size may change prior to drilling the well due to the current rig availability. If the proposed location is not large enough to accommodate drilling, the location will be re-surveyed and a Form 9 will be submitted.

10. Plans for Surface Reclamation:

Producing Location:

- a. Immediately upon well completion the location and surrounding area will be cleared of all unused tubing, equipment, materials, trash and debris not required for production.
- b. Immediately upon well completion any hydrocarbons in the pit shall be removed in accordance with 40CFR 3162.7.
- c. Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.
- d. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximated natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.
- e. To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface 3 feet above surrounding surface to allow the reclaimed pit area to drain effectively.
- f. Upon completion of back filling, leveling and re-contouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

- i. Abandoned well sites, roads and other disturbed areas will be restored as nearly as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions and re-establishment of vegetation as specified.
- ii. All disturbed surfaces will be re-contoured to the approximated natural contours with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. If necessary, re-seeding operations will be performed after completion of other reclamation operations.

Seed Mixture for Windrowed Top Soil Will Include:

BLM

11. Surface Ownership: Location, Access and Pipeline Route:

Wellsite: BLM

Access: BLM

Pipeline: BLM

12. Other Information

On-site Inspection for Location, Access and Pipeline Route:

An on-site with the BLM was conducted on

Special Conditions of Approval:

- Tanks and Production Equipment shall be painted pursuant of BLM.
- Surface Gathering Pipeline shall be 6" or less

Archeology:

- a. A Cultural Resource Inventory Report is attached.

Paleontology:

- a. A Paleontology Reconnaissance Report is attached.

If, during operations, any archaeological or historical sites, or any objects of antiquity (subject to the Antiquities Act of June 8, 1906) are discovered, all operations which would affect such sites will be suspended and the discovery reported promptly to the surface management agency.

13. Lessee's or Operator's Representatives:

Representatives:

Alvin R. (Al) Arlian
Landman – Regulatory Specialist
Enduring Resources, LLC
475 17th Street, Suite 1500
Denver, Colorado 80202
Office Tel: 303-350-5114
Fax Tel: 303-573-0461
aarlian@enduringresources.com

John Conley
Senior Engineering Manager
Enduring Resources, LLC
475 17th Street, Suite 1500
Denver, Colorado 80202
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Fax Tel: 303-573-0461
jconley@enduringresources.com

CONFIDENTIAL

SELF-CERTIFICATION STATEMENT

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Enduring Resources, LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date May 27, 2010

Name and Title:



Alvin R. Arlian, Landman – Regulatory Specialist
Enduring Resources, LLC
475 17th Street, Suite 1500
Denver, Colorado 80202
(303) 350-5114

Bonanza 9-23-43-11 Well
Lease No. UTU-74426
2008' FSL– 553' FEL
NESE Sec 11-9S-23E
Uintah County, Utah

Enduring Resources, LLC is responsible under the terms and conditions of the lease for the operations conducted upon leased lands. Bond coverage is provided by UTB000173.

Cultural Program Survey/Inventory Report Form

Project Name: Bonanza Well 9-11-9-23

Proponent: Houston Exploration Company

Location: T. 9S R. 23E Section. 11

Cultural Survey/Inventory Completed: Y: ☒ X N:

If yes, by whom: Sagebrush Consultants

Title of report: "A Cultural Resource Inventory of Houston Exploration Bonanza Wells
#2-11-9-23, 3-11-9-23, 5-11-9-23, 6-11-9-23, 7-11-9-23, 9-11-9-23, and 11-11-9-23
Access Roads and Pipelines Uintah County, Utah." Utah report number: U-05-SJ-398b.
9-23-31-11 9-23-32-11 9-23-32-11 9-23-32-11 9-23-43-11 9-23-23-11
9-23-21-11 9-23-22-11

Date of report: June, 2005

Findings/recommendations Offered: No Historic Properties Affected.

Tribal Coordination Needed:

Cultural: Y: N: X

Date Completed:

Tribal Official:

Comments/recommendations:

Based on the information provided in the report (s) and coordination with the Tribe (s), as appropriate, it is the Vernal Field Office Archaeologist's recommendation:

X To approve the proposed project from a Cultural Program perspective that cultural resources would not be affected by the proposal. [36CFR 800: No Historic Properties Affected; sites would not be affected directly or indirectly.]

 To approve the proposed project from a Cultural Program Perspective PROVIDED, the following mitigation is incorporated into the project authorization. [36CFR 800: A No adverse Effect determination is dependent upon the analysis of the mitigation, avoidance, project modification etc.]

 Existing information is insufficient, or conflicting to make a proper recommendation as to the possible involvement of cultural resources. Therefore, I must withhold my approval, from a Cultural Resource Program perspective, until further work is completed. That additional work is specified below. [36CFR 800: Under this authority a "May Effect" recommendation may be appropriate. Until it can be resolved whether the project, as designed, or modified will have an effect on a property (s) an "Adverse Effect" or "No Adverse Effect" or a "Positive Effect" cannot be determined until NEPA and/or SHPO review is completed, the project cannot be approved by the Cultural Program.]

Date: June 30, 2005


VFO Archaeologist

Attachments:

**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 5/28/2010

API NO. ASSIGNED: 43047510980000

WELL NAME: Bonanza 9-23-43-11

OPERATOR: Enduring Resources, LLC (N2750)

PHONE NUMBER: 303 350-5114

CONTACT: Alvin Arlian

PROPOSED LOCATION: NESE 11 090S 230E

Permit Tech Review: ☒

SURFACE: 2008 FSL 0553 FEL

Engineering Review: ☐

BOTTOM: 2008 FSL 0553 FEL

Geology Review: ☒

COUNTY: UINTAH

LATITUDE: 40.04876

LONGITUDE: -109.28604

UTM SURF EASTINGS: 646207.00

NORTHINGS: 4434366.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-074426

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - UTB000173

☐ **Potash**

☐ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** 49-2310

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☐ **Intent to Commingle**

Commingle Approved

LOCATION AND SITING:

☐ **R649-2-3.**

Unit:

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

Board Cause No: Cause 179-15

Effective Date: 7/17/2008

Siting: 460' Fr Exterior Lease Boundary

☐ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations: 4 - Federal Approval - dmason



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: Bonanza 9-23-43-11

API Well Number: 43047510980000

Lease Number: UTU-074426

Surface Owner: FEDERAL

Approval Date: 6/3/2010

Issued to:

Enduring Resources, LLC, 475 17th Street, Suite 1500, Denver, CO 80202

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 179-15. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month

- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:

A handwritten signature in black ink, appearing to read "B. J. Hall", written over a horizontal line.

Acting Associate Director, Oil & Gas

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

MAR 08 2011

SUBMIT IN TRIPLICATE - Other instructions on reverse side

BLM

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. UTU74426
2. Name of Operator ENDURING RESOURCES, LLC Contact: AL ARLIAN E-Mail: aarlbian@enduringresources.com		6. If Indian, Allottee or Tribe Name
3a. Address 475-17TH STREET, SUITE 1500 DENVER, CO 80202	3b. Phone No. (include area code) Ph: 303-350-5114 Fx: 303-573-0461	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 11 T9S R23E NESE 2008FSL 553FEL		8. Well Name and No. BONANZA 9-23-43-11
		9. API Well No. 43-047-51098
		10. Field and Pool, or Exploratory NATURAL BUTTES
		11. County or Parish, and State UINTAH COUNTY, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Change to Original PD
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Request for a two-year extension to APD termination date from 4-15-2011 to 4-15-2013.

VERNAL FIELD OFFICE
ENG. (Signature) MAR 14 2011
GEOL. _____
E.S. _____
PET. _____
RECL. _____

CONDITIONS OF APPROVAL ATTACHED

14. Thereby certify that the foregoing is true and correct. Electronic Submission #103810 verified by the BLM Well Information System For ENDURING RESOURCES, LLC, sent to the Vernal Committed to AFMSS for processing by ROBIN R. HANSEN on 03/08/2011 ()		RECEIVED
Name (Printed/Typed) AL ARLIAN	Title REGULATORY SPECIALIST	APR 11 2011
Signature (Electronic Submission)	Date 03/08/2011	DIV. OF OIL, GAS & MINING

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>(Signature)</u>	Title Assistant Field Manager Lands & Mineral Resources	MAR 25 2011
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office VERNAL FIELD OFFICE	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UDOGM

OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

11DD1114755F

CONDITIONS OF APPROVAL

Enduring Resources, LLC

Notice of Intent APD Extension

Lease: UTU-74426
Well: Bonanza 9-23-43-11
Location: NESE Sec 11-T9S-R23E

An extension for the referenced APD is granted with the following conditions:

1. The extension and APD shall expire on 7/18/11 due to the expiration of the overlying NEPA document.
2. No other extension shall be granted.

If you have any other questions concerning this matter, please contact Carey Doyle of this office at (435) 781-3406

RECEIVED
APR 11 2011
DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-074426
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: Enduring Resources, LLC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 , Denver, CO, 80202		8. WELL NAME and NUMBER: BONANZA 9-23-43-11
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2008 FSL 0553 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 11 Township: 09.0S Range: 23.0E Meridian: S		9. API NUMBER: 43047510980000
9. FIELD and POOL or WILDCAT: NATURAL BUTTES		COUNTY: UINTAH
STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 6/3/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

 Request for an one-year extension to the APD termination date.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 06/06/2011

By:

NAME (PLEASE PRINT) Alvin Arlian	PHONE NUMBER 303 350-5114	TITLE Landman-Regulatory
SIGNATURE N/A	DATE 6/2/2011	



GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

May 25, 2012

Al Arlian
Enduring Resources, LLC
511-16th Street, Ste. 700
Denver, CO 80202

Re: APD Rescinded – Bonanza 9-23-43-11, Sec.11 T.9S, R.23E
Uintah County, Utah API No. 43-047-51098


Dear Mr. Arlian:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on June 3, 2010. On June 6, 2011 the Division granted a one-year APD extension. On May 23, 2012, you requested that the APD be rescinded. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective May 23, 2012.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,


Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal

